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THE

EDINBURGH REVIEW,

OCTOBER, 1806.

No. XVII.

ART. I. *A Voyage to Cochinchina, in the Years* 1792 *and* 1793: *containing a General View of the Valuable Productions and the Political Importance of this flourishing Kingdom; and also of such European Settlements as were visited on the Voyage: with Sketches of the Manners, Character, and Condition of their several Inhabitants. To which is annexed, an Account of a Journey made in the Years* 1801 *and* 1802, *to the Residence of the Chief of the Booshuana Nation, being the remotest Point in the Interior of Southern Africa to which Europeans have hitherto penetrated. The Facts and Descriptions taken from a Manuscript Journal. With a Chart of the Route.* By John Barrow, Esq. F. R. S. Author of "Travels in Southern Africa," and "Travels in China." Illustrated and embellished with several Engravings by Medland, coloured after the original Drawings by Mr Alexander and Mr Daniell. 4to. pp. 448. London. Cadell & Davies. 1806.

WE have come to the dregs of Mr Barrow now. He must travel again before we allow him to publish any more travels. This is another volume made out of the Chinese embassy; and although it be not without its merit, it is indisputably the least valuable, as well as the most expensive, of all his publications. There are strong symptoms of book-making, indeed, in the form and decorations of the volume, as well as in its substance and contents. The account of Cochinchina is certainly curious; but it does not occupy one sixth part of the quarto; and the rest is filled with an account of the Bay of Biscay, Madeira, Teneriffe, Rio de Janeiro, Batavia, and such other places as are usually touched at in the outward bound voyage to China. Mr Barrow stopped but a few days at most of these places; and

as he professes to have none of the qualifications of a naturalist, and enjoyed no uncommon opportunities of observation, it may easily be understood that the greater part of his remarks upon them are such as might be collected from the journal of any of the voyagers that yearly perform the same journey by the same stages. Besides a great deal of commonplace description, the narrative is eked out by idle anecdotes of the personal adventures of the author and his companions,—of their being caught in a shower in attempting to climb the peak of Teneriffe,—their being obliged to carry an old sail with them for want of a tent,—and some of them being mounted on asses when there were not mules enough to accommodate the whole party. It was natural enough for Mr Barrow to divert the *ennui* of a long voyage, by inscribing these events in his journal; and his immediate friends perhaps might have read them with some interest, if he had narrated them in affectionate epistles; but we scarcely think his first-cousins would now care to peruse them, thirteen years after he was restored to them in safety; and can venture to affirm, that they will appear very childish and uninteresting to all those who have paid three guineas and a half for the pleasure of perusing them. There is still worse taste displayed in some of the moral declamations with which the narrative is incumbered, and in the silly rancour with which the author is pleased, in 1806, to attack the levelling principles of the French republicans.

After all, however, Mr Barrow is not an ordinary traveller; there is a vein of strong sense and vigilant observation about him, which rarely disappoints or misleads his reader: he fixes, for the most part, with much sagacity upon the interesting and important parts of his subject: and being perfectly free from enthusiasm, and tolerably free from theory or prejudice, he usually gives a more candid and judicious account of what he sees, than most men are able to do who think it worth while to give their account to the public. We shall run shortly over the contents of his volume, and try what we can glean for the amusement or instruction of our readers.

Mr Barrow left England in September 1792; and when he gets to the Straits of Gibraltar, does not fail to speculate upon the remarkable fact of the constant current which sets through it from the Atlantic to the Mediterranean, and which is said to be counterbalanced by an under-current which sets as constantly in an opposite direction. He recites, upon this occasion, an experiment communicated to him by Admiral Patton, which deserves, we think, to be extracted.

'The Admiral took up a small flask of salt water in the Atlantic Ocean, near Cape St Vincent, which weighed 22 oz. 5 drs. The same

quantity, in bulk, of salt water taken up by him in the Mediterranean near Minorca, was found to be 13 grains heavier. Two decanters were afterwards filled, one with fresh, the other with salt water, their specific gravities differing in the above proportion, and the fresh water tinged with red colouring matter. The decanters being placed horizontally, and their necks closely luted, a gradual interchange of their contents was observed to take place; the fresh and coloured water making its way through the upper, and the salt water in a contrary direction through the lower, part of the necks; being a just representation of the upper and under currents, which are supposed to flow in contrary directions through the Strait of Gibraltar.' p. 3.

When he approaches to Madeira, Mr Barrow is enchanted with the picturesque appearance of its woods and mountains, and the beautiful aspect of the white buildings of Funchal. On landing, however, he finds the streets dirty, and the roads bad; upon which he makes the following original and striking reflection—'How deceitful are oftimes the fairest appearances; and how frequently is the beauty of objects, when viewed from a distance, converted into real deformity on a nearer approach!'

In this island, he assures us, that though there are several nunneries, 'not a single instance of the veil being taken has occurred for many years past.' He speaks rather unfavourably of the salubrity of the island; at least he affirms that the inhabitants have in general a meagre, sallow and sickly appearance, and that he could not hear of any instance of remarkable longevity. The monks, who swarm in every part of the settlement, he represents as very ignorant, immoral, and impertinent. The staple of the place is its wine; of which there is never more than 15,000 pipes exported in a year; and of this no more than 4500 come to England, while India takes at least 5500. Its peculiar excellence, he conceives, is owing to the incredible pains that are taken to select only the perfectly fresh and ripe grapes before putting them in the wine-press. There are no venomous creatures on the island, and 'few insects of any kind, to annoy the stranger, as usually happens (he is pleased to express himself) in *warm-weather countries.*'

The next place is Teneriffe; and Mr Barrow appears to be a little better pleased with it than with Madeira. The town is better built, and the people more vigorous and healthy; and though he got wet in trying to scale the peak, he passed over a fine picturesque country, and was hospitably entertained by some British merchants at Oratava. The clergy, however, are the predominant cast in Teneriffe, and maintain their supremacy by the terrors of the Holy Inquisition. It is to this institution that Mr Barrow ascribes the solitary, indolent, and secluded lives of the Spa-

nish colonists. The clergy exact the tenth of the whole produce of the land, besides innumerable alms and extraordinary contributions; and the situation both of sovereign and subject must be allowed to be sufficiently miserable, if we may rely on the fidelity of the following picture.

'All exports and imports are also taxed for the benefit of the Crown; and the luxuries of snuff and tobacco are royal monopolies, prohibited, on very heavy penalties, from being imported by individuals, or cultivated on the island. A little weed that grows on the rocks, the *Lichen Rochella*, usually called Orchella, used as a purple dye for silks, is also a royal monopoly. As an extraordinary indulgence on the part of the Crown, the small quantity of silk produced in Teneriffe is allowed to be manufactured into gloves and stockings; and the growth of the sugar-cane is not absolutely prohibited, because the cultivation of this article is not attended with any profit to the planter; but the culture and the manufacture of all such articles as the mother-country or her more favoured colonies can supply, are directly prohibited on this island. Yet, with all these restrictions, the whole amount of the taxes, imposts and vexatious monopolies on the Seven Islands, is scarcely equal, after the expenses are deducted, to the annual profits of a London brewer.' p. 52.

The landing at Laguna, which is the capital of the island, is extremely difficult, and the bay particularly hazardous for shipping. The defensive works in that quarter are also very respectable; and therefore Mr Barrow suggests, that if it should ever again be thought expedient to attack the island, the debarkation should be made at the opposite port of Oratava, which is very weakly fortified, and from which it would be easy to advance over an open country to Laguna, which is quite unprotected towards the land. He gives a short and unsatisfactory account of the Guanches, or original natives, who are now almost completely extirpated; and calculates the whole population of the island at about one hundred thousand.

The next chapter conducts us to the island of St Jago; but we are detained for twenty or thirty pages by the way, with an account of Mr Barrow's contrivances for passing the time in the languid intervals of a prosperous navigation—of his fishing of dolphins and sharks—his speculations on swordfish and flying fish—and his philosophical experiment of sinking an empty bottle, close corked, till the pressure of the water forces the cork into the inside. At last he arrives at St Jago, and finds the people beggarly, sickly, and enervated. There had been drought and famine, indeed, for three years before; but the race, which is debased by a plentiful mixture of negro blood, seems degenerate and wretched. The soil, in favourable seasons, is represented as unusually fertile: but industry and the arts are almost unknown in the Cape de Verd

Islands; and they might be occupied at any time, according to Mr Barrow's account of them, by a handful of men acquainted with the landing places.

From these miserable spots, Mr Barrow proceeded through what the Portuguese have termed 'the Grassy Sea,' a vast expanse of water, covered quite over with a thick and floating vegetation, to the celebrated harbour of Rio de Janeiro, on the coast of the Brasils. As he appears to have exhausted his whole powers of writing in the elaborate description which he has given of this region, it is but fair to extract the whole passage.

'The first remarkable object that catches the attention, after passing Cape Frio, is a gap or rent in the verdant ridge of mountains which skirts the sea-coast. This chasm appears, from a distance, like a narrow portal between two cheeks of solid stone, which being perfectly naked are the more remarkable, as every other prominent part of the ridge of mountains is clothed with luxuriant vegetation. On approaching this chasm, which is in fact the entrance into the grand harbour of Rio de Janeiro, the cheek on the left or western side is discovered to be a single solid stone of a conical shape, or, in nautical language, a sugar-loaf, entirely detached, not quite perpendicular, but leaning a little towards the entrance. We took an opportunity, during our stay at Rio, of ascertaining its height, by means of a line measured on a little sandy beach which skirts its base on the side next to the harbour, and the angles which it extended from the extremities of this line. From the result of our operations it appeared that this solid mass of hard sparkling granite is 680 feet high above the surface out of which it rises. The eastern or opposite cheek of the chasm is a naked mountain, composed of the same material, but with this difference in point of form, that it has an easy and regular slope from the water's edge to the summit, which is about the same height as that of the cone. The whole of this side is occupied by forts, lines, and batteries, for an account of which I must refer the reader to the two plates in the following chapter.

'A little island strongly fortified, just within the entrance, contracts the passage to the width of about three-fourths of a mile. Having cleared this channel, one of the most magnificent scenes in nature bursts upon the enraptured eye. Let any one imagine to himself an immense sheet of water running back into the heart of a beautiful country, to the distance of about thirty miles, where it is bounded by a skreen of lofty mountains, always majestic, whether their rugged and shapeless summits are tinged with azure and purple, or buried in the clouds—Let him imagine this sheet of water gradually to expand, from the narrow portal through which it communicates with the sea, to the width of twelve or fourteen miles, to be every where studded with innumerable little islands, scattered over its surface in every diversity of shape, and exhibiting every variety of tint that an exuberant and incessant vegetation is capable of affording—Let him conceive the shores of these islands

to be so fringed with fragrant and beautiful shrubs, not planted by man, but scattered by the easy and liberal hand of nature, as completely to be concealed in their verdant covering—Let him figure to himself this beautiful sheet of water, with its numerous islands, to be encompassed on every side by hills of a moderate height, rising in gradual succession above each other, all profusely clad in lively green, and crowned with groups of the noblest trees, while their shores are indented with numberless inlets, shooting their arms across the most delightful valleys, to meet the murmuring rills, and bear their waters into the vast and common reservoir of all—In short, let him imagine to himself a succession of Mount Edgecombes to be continued along the shores of a magnificent lake, not less in circuit than a hundred miles; and having placed these in a climate where spring for ever resides in all the glow of youthful vigour, he will still possess only a very imperfect idea of the magnificent scenery displayed within the capacious harbour of Rio de Janeiro; which, as an harbour, whether it be considered in the light of affording security and convenience for shipping, for its locality of position, or the fertility of the adjacent country, may justly be ranked among the first of naval stations.' p. 74—6.

The town of St Sebastian contains near 60,000 inhabitants; and the fortifications, quays, and public buildings, are magnificently built of beautiful granite: there are public walks, fountains, and aqueducts, and shops richly stored with all European productions, and among others, with great variety of English quack medicines, and English caricature prints. Such is the jealous policy of the government, however, that no stranger is allowed to remain ashore after sunset, or to walk through the day without a soldier at his heels. The manners of the people are said to be extremely dissolute; but Mr Barrow, with a chivalrous zeal for the fame of the ladies, endeavours to defend them from this imputation, and to prove that their custom of tossing flowers to strangers in the streets, which has usually been considered as a sort of invitation to gallantry, is really a mere childish and innocent practice, retained from the habits of the boarding schools. The colonists live a gloomy and sequestered life; dividing their hours between sleep and superstition, and meeting in society only to show their ceremony, their jealousy, and distrust of one another.

The Brasils were first colonized under the pretence of a zeal for converting the natives to Christianity; but their apostles began by reducing the greater part of them to servitude: And though some little indulgence was afterwards procured for them by the policy of the Jesuits, the same inhuman system was adopted, with regard to them, that effected, in so short a period, the total extirpation of the native inhabitants of Cuba and St Domingo. The Brasilians are now so reduced in number, that it is with great difficulty that twelve can be procured to row the government barge, on

occasions of great solemnity. They have been succeeded in their slavery and wretchedness by negro slaves, as in the islands; and, notwithstanding the superior humanity with which they are said to be treated, Mr Barrow assures us, that it requires an annual importation of not less than 20,000 to keep up their numbers. He has introduced, upon this occasion, some remarks upon the slave trade, and negro slavery in general, which are not the less creditable to his heart and understanding for being somewhat out of place. It is pleasing to observe the unanimity of the verdict which seems to be returned upon this interesting question. Mr Barrow is, of all modern travellers, perhaps, the least tinctured with false sentiment or idle superstition: nobody will accuse him of the cant of affected philanthropy, or foolish and unworldly enthusiasm; and yet he joins his voice to that of the enlightened abolitionists, with as much zeal and steadiness, as any of those by whom the cause was originally brought forward.

The soil and climate of Rio de Janeiro are admirably adapted for the production of almost every sort of vegetable; but the place is not by any means healthy, and is infested, even beyond the common lot of tropical countries, by innumerable swarms of insects. It is owing to the continual teazing of the musquitoes, Mr Barrow is persuaded, that America has hitherto produced so few works of genius. It is inconceivable to him, he says, how any man can think to the purpose, with such an odious creature eternally humming in his ears!

The government is as bad as possible; and the system of taxation very ingeniously contrived to impoverish and distress the people, without putting any thing into the pocket of the sovereign. The crown gains something less than 15,000*l.* a year by the monopoly of salt; in consequence of which, the fisheries are entirely destroyed, thousands of cattle are suffered to perish, and multitudes slaughtered for the sake of the hide only. The salt necessary to preserve a carcase, costs about three times as much as the whole animal. The government, indeed, seems to make the depression of this colony, one of the primary objects of its interference with it.

'It no sooner discovered,' Mr Batrow assures us, 'that sugars could be raised in any quantity, and afforded in the markets of Europe at reasonable prices, than it thought proper to impose on them an export duty of 20 *per cent.*, which operated as an immediate check on the growth of this article. When the cultivation of the indigo plant had been considerably extended, and the preparation sufficiently understood, so as to enable the colonists to meet their competitors in the markets of Europe, this article was assumed as a royal monopoly.' p. 122, 123.

Such a system of government is only intelligible, upon the sup-

position that the colonists would be tempted by a feeling of prosperity to throw off the heavy yoke of their rulers, and assert their independence; and this, Mr Barrow assures us, is very likely to happen at all events. He speaks of them as extremely dissatisfied with the government, and speaking freely of the advantages to be derived from separating from it: at the same time, he adds, that he conceives that one of their own countrymen from Europe, would be more acceptable as a chief, than either a stranger or a colonist; the people, in general, being strongly attached to their language, religion, and the name of their country. 'If the court of Portugal,' he adds, 'had sufficient energy to transplant itself to the Brasils, a mighty and brilliant empire might speedily be erected in South America, to counterpoise the growing power of the United States in the North:' and he proceeds to calculate the effects which this change would produce on the commercial interests of Great Britain.

We have heard of this scheme before; and we know that it has been sanctioned by the approbation of some very distinguished characters; but to us, we will confess, it has always appeared a very desperate and quixotic project. What the Court of Portugal is, is but too well known to all Europe: but if it possessed all the energy and liberality of the most vigorous and enlightened government that ever existed, we do not see how its transportation to the Brasils could enable it to create a mighty and brilliant empire. Who are to be the subjects of this mighty empire? The native Brasilians are almost entirely extirpated in the neighbourhood of the settlements, and detest the name and the sight of a Portuguese: All the American tribes, besides, are in a state of unreclaimed barbarism, and have hitherto shown such an incapacity and indisposition for any of the higher attainments of civilized life, that another generation, at least, must be allowed to pass away, before it can be rational to talk of erecting a brilliant empire of such materials. The colonists themselves, consist of a few thousand superstitious and enervated traders; and it cannot be supposed that very many thousands would follow the fortunes of their sovereign from the mother country. If we were to admit, therefore, that the Portuguese would not be characterized in this settlement by the same indolence and impolicy which has always distinguished them in their colonies, it might reasonably be asked, within what period this little germ of empire could be expected to expand into opulence or greatness? Population is not apt to increase with extraordinary rapidity among convents and nunneries; nor would the establishment of the Holy Inquisition, and a rigorous system of commercial regulations, be very likely to attract foreign settlers. If it be supposed that all these are to be abolished, and that the government is hereafter to

conduct itself with consummate vigour and sagacity, then there can be no need for their emigration to Brasil. That colony will be administered of course, in the way best calculated for its improvement; and the regenerated Court will have two millions of Europeans to employ in subserviency to its views, instead of one hundred thousand.

From Rio de Janeiro, Mr Barrow proceeded, by the uninhabited island of Tristan de Cunha and Amsterdam, to the Straits of Java. The three Islands of Tristan de Cunha appear to be evidently of volcanic origin; and the largest is probably the greatest mass that has unequivocally been elevated from the depths of the sea, by the agency of subterraneous fire. It is upwards of twelve miles in circuit; the whole coast, except in one small spot, is as perpendicular as a wall; and rises, from the edge of the water, to the astonishing height of at least one thousand feet: from the top of this cliff, the land slopes gradually up to a high conical mountain in the centre of the island, the lofty crater of this creative volcano. If these appearances could leave any doubt as to the origin of Tristan de Cunha, the flames which still burn in the Island of Amsterdam, bear undoubted testimony to its genealogy. This island, which, with its smaller companion of St Paul, stands in the midst of the solitary ocean, at the distance of more than 2000 miles from any land, is about twelve miles in circumference, and surrounded, like that which we have just described, with a lofty wall of lava, bearing, in many places, the most evident marks of igneous fusion: many of the fissures are filled with volcanic glass, and the whole shore is scattered over with pumice-stone and obsidian: zeolite was also found in some of the clefts on the surface; but Mr Barrow could discover no specimen of this substance imbedded in the solid lava. The only accessible part of the island, is where the sea has broken into a huge extinguished crater on the east side, which it has converted into an elliptical pool, of about 3000 feet in the largest diameter. Every part of the island abounds with hot springs, from the temperature of boiling water, to that of 62° of Fahrenheit. The shore swarms with porpoises, whales, sharks, and cray-fish; the rocks are darkened with immense flights of sea birds; and the surface of the island itself is covered with a plentiful vegetation, chiefly of mosses, reeds, and a few grasses. The naturalist of the expedition collected upwards of fifteen genera, all known to be produced also in Europe. Mr Barrow very naturally wonders how they got there. There is no shrub, or frutescent plant, on the whole island; though the neighbouring land of St Paul is quite covered over with a thick copse-wood: it is probably of a more ancient formation; though its igneous origin is attested as clearly, by the

pumice and obsidian with which its shores are covered. In this melancholy spot, Mr Barrow found five human creatures, three French and two Englishmen. They had been left there five months before, to provide a cargo of seal-skins, for which their vessel was to return a year after. They had lived upon sea-birds and their eggs, with scarcely any sort of vegetable food, but had enjoyed uninterrupted health, and had met with great success in their hunting. Mr Barrow afterwards heard that the ship of these poor adventurers had been captured, and that they were taken up, at the end of two years, by an American cruiser, who landed them at New Holland, and ran away with the whole of their seal-skins.

From these islands the vessels had a prosperous voyage to the Straits of Sunda. Mr Barrow recommends it to all vessels to stop for refreshment at Anjerie Point, on the Java shore, rather than on the Sumatra side, near North Island, which has hitherto been much more frequented. The supply of stores is infinitely superior it seems at the former—and the station is peculiarly healthy, while the extreme insalubrity of the Sumatra coast infinitely overbalances any advantage it may possess in being less liable to calms. The whole surface of the sea, from this place to Batavia, an extent of ninety miles, is broken by innumerable low islands of coral rock, the greater part covered with wood, and all clothed with the most beautiful verdure. Throughout the whole Pacific Ocean, indeed, the greater part of the islands, and the reefs by which the shores are surrounded, appear to owe their existence to the labours of this little insect; and it is truly astonishing to reflect upon the immense fabrics that are reared in the midst of the fathomless ocean by a creature so weak and diminutive. The coast of New Holland is girt round on the eastern part with reefs and islands of coral, rising like a wall from the depths of a sea, in which no bottom could be found with a line of 150 fathoms. In the West Indies, and, indeed, all over the Atlantic, though large masses and fragments of the corálline are frequently to be met with, it is remarkable that no island or reef of this substance has yet been discovered. Coral islands, it deserves also to be remarked, are usually covered with a luxuriant vegetation as soon as they emerge from the surface, whereas those which owe their origin to subterraneous fire, are probably some centuries before they acquire any clothing of verdure.

Mr Barrow is very long on Batavia; though we are not aware that he has added any thing very important to the common accounts. The population of the city and adjacent villages he reckons at 116,000, of which the Europeans and their families amount to about 8000, the slaves to 17,000, and the rest is made up of free

Javanese or Malays, and 22,000 Chinese. The climate is dreadfully unhealthy, and the mortality among the new settlers tremendous. No less than three out of five die the first year; and, by the registers of the military hospital, it would appear that the whole garrison had been regularly killed off in this manner within the twelve months. The establishment, Mr Barrow assures us, was never above 1500, and sometimes not half so many; and yet, for 62 years, the annual deaths amounted to 1258. Of the seasoned Europeans about twelve in a hundred die yearly, and scarcely any survive the middle period of life. Of the natives, the mortality is not quite three in the hundred. This terrible mortality Mr Barrow imputes, not so much to the nature of the climate, as to the unhealthy situation of the city, and the Dutch taste for canals and gluttony. Mr Barrow concludes this chapter with some account of the fruits and plants of the island; a case of hydrophobia, produced by the bite of a man in a passion; and a description of certain huge spiders, which make webs strong enough to catch birds, and have such large and sharp claws, that they are mounted in silver, and used for toothpicks.

The crowded streets of Batavia exhibit a greater mixture of races than is probably to be found in any other city in the world. The Dutchman, indeed, seldom condescends to walk, and always appears in a full dress suit of velvet, with a long retinue of slaves.

'But the Armenians, the Persians, and the Arabs, always grave and intent on business; the half-cast merchants from the different ports of Hindostan; and, above all, the Chinese, some in long satin gowns and plaited tails reaching almost to their heels, and others crying their wares to sell, or seeking employment in their several professions, dressed in large umbrella hats, short jackets, and long wide trowsers; the Javanese loitering carelessly along, as if indifferent to every thing around them; the free Malays, with half-averted eye, looking with suspicion on all who come across them; and slaves, from every nation and country of the East, condemned to trudge in the same path with the carriages:—all these, in the early and later parts of the day, may be seen bustling in crowds in the streets of Batavia.' p. 203.

The following is Mr Barrow's picture of the Dutch colonist.

'The Dutchman, whose predominant vice in Europe is avarice, rising into influence in an unhealthy foreign settlement, almost invariably changes this part of his character, and, with a thorough contempt of the frugal maxim of *Moliere's L'Avare*, lives to eat, rather than eats to live. His motto is, "Let us eat and drink, for to-morrow we die." He observes, it is true, the old maxim of rising at an early hour in the morning, not however for the sake of enjoying the cool breeze, and of taking moderate exercise, but rather to begin the day's career of eating and drinking. His first essay is usually a *sopie* or

glass of gin, to which succeed a cup of coffee and a pipe. His stomach thus fortified, he lounges about the great hall of the house, or the viranda if in the country, with a loose night-gown carelessly thrown over his shoulders, a night-cap and slippers, till about eight o'clock, which is the usual hour of breakfast. This is generally a solid meal of dried meat, fish, and poultry, made into curries, eggs, rice, strong beer, and spirits. *Currie* and rice is a standing dish at all meals and at all seasons of the year, being considered as an excellent stimulus to the stomach. The business of the day occupies little more than a couple of hours, from ten to twelve, when he again sits down to dinner, a meal that is somewhat more solid than the breakfast. From table he retires to sleep, and remains invisible till about five in the evening, when he rises and prepares for taking a ride or a walk, from which he uniformly returns to a smoking hot supper.' p. 211–12.

With regard to the native Javanese, their princes are prisoners to the Dutch, and the landholders slaves to the princes. They are mere savages;—the princes eating as much opium, and marrying as many wives as they think proper,—and the peasantry starving upon rice and cocoa nuts. They believe in the trasmigration of souls; and seem to have derived their religious system from that of the Hindoos.

The Malays Mr Barrow conceives to be indubitably of Tartar origin;—they occupy the sea coast of most of the great islands in the Eastern Ocean,—while a race, evidently descended from the Hindoos, continues to possess the central region. The Malay character is made up of savage vices—treachery, cruelty, caprice—love of intoxication, and gambling. Cock-fighting is their favourite sport; and for the honour of the Bantam breed, we think it but justice to state, that, so far from resembling the diminutive creatures that usurp that name in England, they are almost as large as a Norfolk bustard, and are often tall enough to peck off a common dining-table. The slaves are kept chiefly for state, or for domestic purposes; and are, on the whole, very mildy treated: yet it requires an importation of a thousand every year, to keep up their numbers. They are mostly Malays,—some Malabars, and some negroes from Madagascar and the Mosambique.

From Batavia the ship proceeded, with the loss of fifty men, to the Bay of Turon, on the coast of Chochinchina. On their arrival, they were at first dispirited by an exaggerated report of the whole country being in a state of tumult, and of the difficulty and danger of attempting any intercourse with the inhabitants. After a few trials, however, they found means to obtain the necessary supplies in great abundance, and established such a communication with the natives, as enabled Mr Barrow to obtain tolerably accurate information as to the late history and present si-

tuation of the country. From the information of a Monsieur Barissy, an intelligent French officer, who commanded a frigate in the service of his Cochinchinese Majesty, Mr Barrow has been enabled to lay before the public a very curious and interesting sketch of the recent revolutions of this neglected country. We must refer our readers to Mr Barrow's own narrative for many of the details, which are very characteristic and extraordinary; but we cannot resist gratifying them with the following abstract of the story.

In the year 1774, the peace of the kingdom of Cochinchina was violated by a sudden and overwhelming insurrection, headed by three brothers of great wealth and influence. They seized the person of the sovereign, whom they put to death, with all of his family who fell into their hands, and established themselves, without opposition, in full possession of the government. The reigning usurper soon took occasion to quarrel with his neighbour the king of *Tung-quin*, who, being defeated in the first engagement, fled to Pekin, and implored the protection of the great Emperor, to whom he had long been tributary. A vast army of Chinese was accordingly marched against the usurper; but, by superior skill and activity, he contrived to harass and elude them, till he was at last enabled to drive them back to the borders of Canton, with the loss of more than half their numbers. The Mandarin who commanded this baffled army, and trembled for his life if his failure should be known at court, had recourse to one of those daring impositions, which are only credible in extensive despotisms, and transmitted a despatch to Pekin, giving an account of a series of splendid successes; but enlarging, at the same time, on the bravery and popularity of the usurper, and the incapacity of the fugitive monarch, and humbly suggesting that it would be the wisest course to invite the former to do homage for the kingdom of *Tung-quin* at Pekin, and to indemnify the abdicated sovereign with some other appointment. The court adopted this counsel; and an invitation, in due form, was sent to the usurper to proceed to Pekin. This wary general, however, distrusting his Imperial Majesty, thought it more prudent to employ one of his confidential officers to personate him on this occasion, and to proceed to do homage in his stead. This representative of royalty was accordingly received with due honour at the Imperial presence, and formally invested with the sceptre of *Tung-quin*. On his safe return to that kingdom, the usurper, apprehensive that the emperor might discover the imposition that had been practised upon him, thought it most adviseable to cut off the heads of his representative and all his attendants, as quickly as possible, and established himself, without farther opposition, on the throne of

Cochinchina and *Tung-quin*, in the end of the year 1779. An enemy was now arraying himself against him, however, of a more formidable description.

At the time of the rebellion in 1774, there happened to reside, at the court of Cochinchina, a French missionary, of the name of Adran, who was strongly attached to the person and family of the rightful sovereign. By his aid, the queen, and the young prince, with his sister, were secretly withdrawn from the capital, when the king and the rest of the royal family fell by the hands of the insurgents, and remained for a considerable period of time concealed in a forest, where they were maintained by the labour and resources of this faithful adherent. When the heat of the pursuit was over, and the usurper had relaxed his vigilance, the enterprizing Adran led the young prince back to his capital, and erected his standard, to which the people flocked in great numbers. By his activity, too, several European vessels, then lying in the port, were purchased, and directed against the fleet of the usurper, to which they did considerable damage; but were speedily obliged to retire; and, that veteran commander returning to the centre of his dominions with a vast army, the prince was compelled once more to abandon the throne of his ancestors, and to take refuge, with about twelve hundred followers, in a small uninhabited island in the Gulph of Siam. From this retreat he was in danger of being expelled, by the restless vengeance of his enemy, when he thought it expedient to seek refuge at the court of Siam, and did good service to that monarch, by leading his armies to victory against the Birmans, with whom he had been long engaged in hostility. He soon lost the favour of this sovereign, however, and was in imminent danger of being sacrificed to the jealousy of his courtiers, when he escaped once more to his solitary island, which he now took care to fortify in such a way as to secure him against any sudden attack.

At this period, his faithful counsellor and assistant Adran conceived the idea of applying, in behalf of this injured sovereign, to Lewis XVI. of France; and accordingly set out on this generous and romantic mission, carrying one of the prince's sons with him, as an hostage and pledge of his veracity. They arrived in Paris in 1787; and that politic court, immediately perceiving the benefit which might be derived from an interference so apparently disinterested, actually concluded a treaty with the exiled king of Cochinchina, of which Mr Barrow has presented his readers with a full copy in this volume. In this curious document, it is stipulated, among other things, that France shall immediately furnish to her ally a fleet of twenty ships of war, with five regiments of French, and two of colonial forces, to be under the

absolute command of the king of Cochinchina; and shall also immediately advance one million of dollars, half in specie, and the other in arms and ammunition. In return, the king of Cochinchina ceded, in perpetuity to France, the bay and peninsula of Turon, with the adjacent islands; stipulated to furnish fourteen ships of the line, with stores and tackling; to admit an establishment of officers of the marine in his dominions; and to allow the French consuls to build any number of vessels in his ports; and, for that purpose, to fell any quantity of timber in his forests. In case the king of France should be at war with any power in India, he is permitted to raise and discipline, in the European manner, fourteen thousand Cochinchinese soldiers; and the king is to provide sixty thousand more, disciplined in the manner of their country.

M. Adran set out triumphantly, with this treaty in his pocket; but, at Pondicherry, he had the misfortune to give offence to the mistress of the governor-general, who stimulated his excellency to thwart and oppose his further proceedings; and occasioned such a delay in equipping the necessary armaments at the Isle of France, that, before they were completed, the revolution broke out in Europe, and the whole scheme was abandoned. The zealous Adran proceeded, notwithstanding, to rejoin his heroic sovereign, whom he found once more in possession of his capital, in 1790, and whom he assisted, in the year following, to reconquer a considerable part of his dominions. In 1793, when Mr Barrow came to Turon, the indefatigable monarch had recovered about a third part of his territories; the other two thirds, including Turon and its dependencies, remaining in possession of the rebels. In the year 1796, it has since been ascertained, he had reconquered about one third more of the country; and in the year 1800, when the last authentic accounts arrived in this country, he was preparing to invade Tung-quin with a formidable armament.

The character of this monarch, who is known by the name of *Caung-shung*, is sufficient of itself to redeem the Aristocracy of Asia from the reproach of indolence or incapacity, and entitles him to be placed upon a level with the most illustrious names in European story. During the short intervals of peace which he has been permitted to enjoy, he has laboured, by the wisest institutions, to promote the peaceful, as well as the warlike, arts among his subjects. He has encouraged agriculture and manufactures of every denomination; he has established public schools in every part of his dominions; has caused a regular survey to be made of the whole sea-coast, and buoys and land-marks to be erected in the dangerous places; he has opened mines, and erected smelting furnaces.

With a view to the military improvement of his country, he employed the faithful Adran to translate into the Chinese language a system of European tactics for the regulation of his army; and applied himself to the erection of a marine, with such indefatigable activity, that, in 1800, he had actually a fleet of no less than twelve hundred vessels, several of them of European construction, and the whole trained to manœuvre by signals, according to the most approved methods of modern times. He is anxious to have the assistance of European officers and men of science in the different departments of his government; and has himself no mean knowledge of many of our useful arts, through Adran's translation of several articles in the Encyclopædia. To ship-building, in particular, he has applied himself with such persevering industry, that he is said to have purchased a Portuguese vessel, for the express purpose of taking it in pieces, plank by plank, and with his own hand fitting in a new piece of similar form and dimensions, till the whole had been completely renovated. Our readers may like to peruse Mr Barrow's account of the daily life of this extraordinary personage, who is now in the fiftieth year of his age.

'At six in the morning he rises from his couch, and goes into the cold both. At seven he has his levee of Mandarins: all the letters are read which have been received in the course of the preceding day, on which his orders are minuted by the respective secretaries. He then proceeds to the naval arsenal, examines the works that have been performed in his absence, rows in his barge round the harbour, inspecting his ships of war. He pays particular attention to the ordnance department; and in the foundry, which is erected within the arsenal, cannon are cast of all dimensions. About twelve or one he takes his breakfast in the dockyard, which consists of a little boiled rice and dried fish. At two he retires to his apartment, and sleeps till five, when he again rises; gives audience to the naval and military officers, the heads of tribunals or public departments; and approves, rejects, or amends, whatever they may have to propose. These affairs of state generally employ his attention till midnight, after which he retires to his private apartments, to make such notes and memorandums as the occurrences of the day may have suggested. He then takes a light supper, passes an hour with his family, and, between two and three in the morning, retires to his bed; taking, in this manner, at two intervals, about six hours of rest in the four-and-twenty.' p. 277–8.

Mr Barrow's account of the Cochinchinese is longer than seems to have been necessary. They formed originally a part of the empire of China, and still use their written character. The spoken language has varied so much, as now to be nearly unintelligible to a Chinese; but in their diet and superstitions, their marriages and funeral ceremonies, their games, music and entertainments,

and the greater part of their ordinary life, they exactly resemble the people from whom they have been separated. The chief difference in their character and manners, consists in their habitual gayety and loquacity, and in the liberty which they allow to their women. Their feet are not cramped, nor are they confined to the house; but they do not seem much improved by the indulgence which is shown them. There is no country in the world where female chastity is so little valued as in the neighbourhood of Turon: husbands and fathers, even of considerable rank, openly bargain with strangers for the use of their wives and daughters. They have no pretensions to beauty, though the cheerfulness of their temper made them appear to advantage, when compared with the dull and morose Chinese. It does not appear that they have adopted from the Chinese the inhuman practice of infanticide.

Though the bay of Turon was at one period the great mart for the commerce of Japan, there are now no towns or considerable villages in its neighbourhood; though there are said to be the vestiges of old walls and fortifications among the present groupes of cottages. The country is extremely productive, and might be made still more so.

Mr Barrow has a kind of patriotic covetousness about him, which, we are afraid, is scarcely reconcileable with the decalogue. He never sees a fine country abroad, but he immediately begins to imagine how comfortable it would be, if it belonged to Great Britain. He is much tempted with the convenient situation of Turon for our China trade; and thinks he may be forgiven for wishing for it, both because it bears some resemblance to the situation of Gibraltar, and because the sovereign at one time thought of giving it up to the French, who are much less deserving. If the Chinese should ever put in execution their often repeated threats of excluding all foreigners from their ports, it would no doubt be of vast importance for us to obtain a settlement at Turon; but Mr Barrow is more rational, we think, when he admits that it is not very probable that the government would ever consent to such a cession, and limits his ambition to the establishment of a commercial intercourse with this neglected country. It abounds with spices, sugar, rice, silk, cotton, and ivory; and, in particular, contains an inexhaustible store of teak, and other woods for shipbuilding, of which Mr Barrow alleges that our supply in other parts of the East is both scanty and precarious. He admits, indeed, that an attempt made about two years ago by the East India Company to open up an intercourse with the country, was completely unsuccessful; and that their agent found the sovereign entirely surrounded by

Frenchmen; and disposed to treat him and his constituents with very little ceremony. He insinuates, however, that this might be owing in some degree to the envoy's utter ignorance of the language; and asserts positively, that no respect will ever be shown by any Oriental sovereign to the ambassador of a company of merchants. He recommends, therefore, that an embassy should be sent directly from the King of Great Britain; and concludes, that as the Chinese trade, which formerly employed upwards of two hundred vessels, has been wholly suspended since the rebellion, it cannot be difficult for the greatest maritime and commercial power in the world, with proper management, to open up an intercourse so obviously beneficial to both countries. Mr Barrow concludes his book with some observations on the probable extent of the Chinese trade and navigation in antient times, and on the grounds which there are for believing what they themselves give out as to their early knowledge of the compass, in spite of the ignorance of the Arabians, with whom they must have traded by its assistance. Of the journey in Southern Africa, which is appended to this volume, we have already given a full account in the preceding volume.

We have thus endeavoured to lay before our readers a concise, though accurate sketch, of Mr Barrow's latest publication; and we do not think it necessary to detain them with any general remarks. In point of sound sense and sagacity, we are disposed to rank him at least as high as any modern traveller; but he is far from answering our abstract idea of excellence in this department. He has rather shown us to what objects a traveller should direct his attention, than in what manner they should be treated. His views are often narrow, and oftener unsound; though, in both cases, it is easy to perceive that he is not so much misled by errors in reasoning, as deceived by imperfect information; and that he would have concluded right, if all the premises had been before him. He knows well enough what is valuable, but does not always know what is new. He is *abnormis sapiens*, and allays his sterling sense with a good deal of obstinacy and precipitation. We should have great hopes of him, if he were twenty years younger. As it is, we hope he will live to make more voyages, and write more quartos. A concise and intelligent account of our Indian empire from such a pen as Mr Barrow's, would be of inestimable value.

ART. II. *Account of a Series of Experiments, shewing the Effects of Compression in modifying the Action of Heat.* By Sir James Hall, Bart. F. R. S. Edinburgh. From the Sixth Volume of the Transactions of the Royal Society of Edinburgh. Printed for Cadell & Davies, &c. 1806.

THE experiments described in this paper are interesting, not to geology alone, but to chemical science in general. The fact, that the most refractory substances may be rendered fusible by repressing the elasticity of the gaseous parts contained in them, is one which not only throws great light on the operations of the mineral kingdom, but makes an important addition to our knowledge concerning the action of fire, and promises no small increase to the power which man has acquired over that element.

Sir James Hall informs us, that he was induced to enter on this course of experiments by the desire of verifying a principle assumed by Dr Hutton in his theory of the earth. This principle is no other than the proposition just mentioned, in consequence of which, if, while heat was applied to calcareous bodies, they were subjected to such a degree of compression as could force the carbonic acid to remain united to the earth, the calcination, or formation of quicklime, would be prevented; the substance might be melted; and, on cooling, might assume the form of spar.

The first part of this bold conclusion Dr Hutton drew from the experiments of Dr Black, which explained the nature of quicklime, and showed that it depended on the separation of the gas from the earth;—the second part of it he deduced from analogy, or from this general maxim, that the combination of chemical substances increases their fusibility. Sir James Hall, however, was unwilling to trust merely to analogy, or to any indirect proof, for the truth of a principle on which a great deal depended, while the direct proof by experiment could be resorted to. The possibility of such direct proof might indeed be questioned; and it had appeared to DR HUTTON, that the experiments from which it must be derived were not likely to succeed, the degrees of heat and compression, which nature had employed in her operations, being far beyond the limits within which the power of man is circumscribed. Sir James Hall thought otherwise; and on comparing the experiments which he had formerly made on the fusion of whinstone with certain appearances observed in the mineral kingdom, he saw reason to believe that the heat required to melt the carbonate of lime was not excessive, nor beyond what art can easily produce. It is common to meet, he remarks, with nodules of calcareous spar included in whinstone; and if the Hut-

tonian theory be true, we must suppose that the whin and the spar were liquid together, the two fluids keeping separate like oil and water. In such cases, the termination of the spar is generally smooth and globular; and this seems to prove that, when the whin had become solid, the spar still remained liquid; for, had the spar congealed first, from its tendency to shoot into crystals, it would have darted into the liquid whin in various directions, according to the peculiar forms of its crystallization; as has happened to some substances contained in whin, more refractory than itself, such as augite, felspar, &c. When the whin congealed, therefore, the spar was yet liquid; but the whin, as appeared from the experiments above referred to, must have congealed at a temperature about 28° or 30° of Wedgwood's pyrometer. It seemed, therefore, reasonable to suppose, that the heat necessary to fuse the carbonate of lime, did not exceed the limits just mentioned; and that, if the carbonate could be forced to bear such heat without decomposition, it would necessarily enter into fusion. Such was Sir James Hall's view of the matter; and the sequel will show that his conjectures were well founded. In January 1798, he began a series of experiments, in order to investigate this matter to the bottom, which, for the seven years following, he seems to have prosecuted, at every interval of leisure, with equal ingenuity and perseverance.

The method that presented itself as the most simple and practicable, depended on this general view. If we take a hollow tube of iron, closed at one end and open at the other, it is evident, that by introducing one end into a furnace, we can apply to it as great heat as art can produce, while the other end is kept cool, or even exposed to extreme cold. If, then, the substance which is to be subjected to the combined action of heat and pressure, be introduced into the breech or closed end of the barrel, and if the middle part be filled with some refractory substance, leaving an empty space toward the muzzle, heat may be applied to the muzzle, while the other end is kept cool; and thus may the barrel, by welding, or other means, be sealed hermetically. Things being then reversed, and the other end introduced into the furnace, a heat of any required intensity may be applied to the matter which is the subject of experiment, and which must remain in a state of compression till the elasticity of the included gas is sufficient to tear the barrel asunder.

The first application of this scheme was carried on with a common gun-barrel, into which was introduced the carbonate of lime, previously rammed into a cartridge of paper or pasteboard, in order to protect it from the iron. The rest of the barrel was then rammed full of pounded clay, previously baked in a strong heat;

after which, the muzzle was closed by a plug of iron welded upon it in a common forge. The breech of the barrel was then introduced into a muffle, heated to about 25° of Wedgwood. Though many of the barrels thus heated yielded to the expansive force, others resisted it, and afforded results that were highly encouraging, and even completely satisfactory, could they have been obtained with certainty from the repetition of the same process. In many of them, chalk or common limestone, previously pulverized, was agglutinated into a stony mass, which required a smart blow of a hammer to break it, and felt under the knife like a common limestone. It dissolved also entirely in the nitric acid, and that with violent effervescence, so as to prove that it retained its carbonic acid.

A circumstance which occurred in one of these experiments deserves to be remarked. From the action of the heat on the paper cartridge above mentioned, the baked clay, with which part of the barrel was filled, was stained black for two thirds of its length. This shows that, though all is tight at the muzzle, a protrusion may take place along the barrel, greatly to the detriment of complete compression: at the same time, it illustrates what has happened sometimes in nature, where the bitumen seems to have been driven, by superior local heat, from one part of a coal stratum, though it has been retained in others, under the same general compression. The bitumen so driven off is found, in other instances, to pervade and tinge beds of slate and sandstone.

In the course of these first experiments, a material improvement of the apparatus occurred, which was, to substitute a fusible metal, composed of certain proportions of bismuth, lead, and tin, instead of the baked clay that had been used to fill the barrel. This metal, which melts in a heat little greater than that of boiling water, was poured into the barrel after the carbonate was deposited in the lower end of it, so as to fill it to the brim. When the metal had become solid, the lower end of the barrel was introduced into the muffle, and the muzzle at the same time kept cool. In this manner, no more of the fusible metal being melted than what lay at the breech, the rest remaining solid, effectually confined the carbonic acid.

It was easy afterwards, when all was cool, to remove the fusible metal by the application of a moderate heat; after which, the carbonate could be taken out of the barrel. This expedient, which gave both facility and accuracy to the process, seems to us well entitled to the praise of ingenuity.

When one sets about a series of experiments with the true temper of philosophic investigation, he does not want grounds

of consolation, even in the most unsuccessful of his trials, and has constant occasion to acknowledge the solidity of Bacon's distinction of experiments into luciferous and fructiferous.

An experiment of the former kind was purposely made with the fusible metal, in which a very curious phenomenon presented itself. A gun barrel being filled with that metal, without any carbonate, and the breech being placed in the muffle, Sir James was surprised to see, as the heat approached to redness, that the liquid metal exuded through the iron in innumerable drops all round the barrel. This increased as the heat advanced, till the liquid metal flowed out in continued streams, so that the barrel was quite destroyed. This phenomenon, no doubt, took its rise from the superior expansion of the fluid above the solid metal, in consequence of which the particles of the former were driven through the pores of the latter, in the same way nearly that water was forced through silver in the Florentine experiment. It occurred as the proper remedy, to enclose a small portion of air in the barrel, so that by yielding a little to the expansion of the liquid metal, it might prevent this last from forcing its way through the iron. This contrivance was found to answer the purpose effectually.

To these improvements another was still to be added, for the purpose of preserving the carbonate clean and free from all contamination of the iron. A small tube of glass, or of Reaumur's porcelain, was placed in the barrel, one half of which was filled with pounded carbonate of lime rammed as hard as possible, the other half being filled with pounded silex, or some other very refractory substance, in order to prevent the penetration of the liquid metal into the carbonate.

In some of the results obtained with this apparatus, the pounded carbonate was not merely consolidated into a stony substance, but into one that contained evident marks of crystallization, and therefore of fusion. One of these is particularly described.

'The inner tube, which was of Reaumur's porcelain, contained eighty grains of pounded chalk; the heat employed was 23° of Wedgwood; and the carbonate was found, after the experiment, to have lost 3½ grains. A thin rim, less than the 20th of an inch in thickness, of whitish matter, appeared on the outside of the carbonate, which was itself of a yellowish colour, and had a decided semitransparency, with a saline fracture. On breaking it, a space more than a tenth of an inch square was found to be completely crystallized, and to have acquired the rhomboidal fracture of calcareous spar. It was white and opaque, and presented three sets of parallel plates, which were seen under three different angles.'

The experiments made in this manner, however, though in

many respects very satisfactory, did not yet seem to Sir James Hall to have been carried to their utmost extent. What that extent was, could indeed only be discovered by trial; and, on that account, Sir James very naturally thought of varying the experiment, and employing a different apparatus. In this apparatus, tubes of porcelain were used for confining the carbonate, and the gun barrels were for some time entirely laid aside.

The porcelain tubes employed were about fourteen inches long, half an inch in the bore, with a thickness of about two-tenths of an inch, and close at one end. They were at first procured from ETRURIA in Staffordshire, but were afterwards made by Sir James himself from the porcelain clay of Cornwall. The process followed was, to ram the carbonate of lime into the breech; to fill the tube to within a small distance of the mouth with pounded flint, and the remainder with the common borax of the shops, reduced to glass, and pounded; then to apply heat to the muzzle, so as to convert the borax into glass; afterwards, to reverse the operation, and apply the requisite heat to the carbonate in the other end.

This general plan, however, required many modifications, which were suggested in the course of the experiments; for the account of which, we must refer to the paper itself, p. 90, &c.

In this manner, experiments were made during 1801 and the two following years, amounting together, with those made with gun barrels, to one hundred and fifty six. Of these Sir James says,

'That though many failed wholly or partially, yet many succeeded, and gave results that tended to establish the essential points of the inquiry. They fully proved, that, by mechanical pressure, the carbonate of lime may be made to undergo great heat without calcination, and to retain almost the whole of its carbonic acid, which, in an open fire, at the same temperature, would have been entirely driven off. The effect of the joint action of this heat and pressure was also to agglutinate the carbonate into a firm mass, possessing a degree of hardness, compactness, and specific gravity, nearly approaching to these qualities in a sound limestone. Some of the results, by their saline fracture, semitransparency, and susceptibility of polish, deserve the name of marble.'

The loss of carbonic acid was material to be ascertained, and was estimated by weighing the carbonate carefully before and after the operation. It was found, that the carbonate, which lost from 42 to 45.5 *per cent.* of its weight in an open fire, would lose, in the experiments we are now describing, from 15 or 10, down to 3, or even 2 *per cent.*

When the loss exceeded 10 or 15 *per cent.*, the substance produced

was always of a friable texture, and without any stony character; when less than 2 or 3 *per cent.*, it possessed the properties of a natural carbonate. In the intermediate cases, the result was sometimes excellent at first, the substance appearing sound, and even, in some degree, crystallized; but it was unable to resist the action of the air; and, by attracting moisture or carbonic acid, or both, after some time it crumbled into dust. One specimen of this sort, formed from pounded spar, was so complete as to deceive the workman employed to polish it, who declared, that if the marble was a little whiter, the quarry from which it was taken would be of great value. In a few weeks, however, this specimen fell into dust; but many others that were produced at this time, have resisted the air, and retain their polish as well as any marble.

It remained, however, still a *desideratum*, to accomplish the entire fusion of the carbonate, and to obtain spar as the result of that fusion. Some approaches to this had already been made, and gave hopes that something better might still be obtained. It was important for this object, to retain, if possible, all the carbonic acid, and to determine what became of that which was lost in these experiments. Had it penetrated the vessel, and escaped entirely; or was it retained within the apparatus in a gaseous, but highly compressed state? In porcelain tubes, this could be determined by weighing the vessel before and after the heat was applied to it; but, with iron, it was more difficult, on account of its oxidation during the exposure to heat. The tube (a porcelain tube), therefore, was weighed as soon as its muzzle was closed, and again, after the breech had been exposed to the heat, taking care that it should be cooled in both cases: when this was done, some loss of weight was always discovered, which showed that the carbonic acid had, to a certain degree, penetrated the tube and escaped. To try whether any part of the acid, separated from the earth, remained in a gaseous but compressed state within the tube, Sir James thought of a very good expedient. He wrapped up the tube, after it was taken out of the fire and cooled, in a sheet of paper, and placed it, so surrounded, on the scale of the balance. As soon as the weight was ascertained, he broke the tube by a smart blow, and replaced the paper containing the fragments on the scale. In those experiments where an entire calcination had taken place, the weight was not found to be changed, all the gas having previously escaped through the tube. But in those where the results were good, a loss of weight was always the consequence of breaking the tube. From this it follows, that in the porcelain tubes, even when the confinement was most perfect, some portion of the carbonic acid had made its way through the vessel, and another had been retained within it, though separate from the earth.

Because this loss seemed unavoidable in tubes of porcelain, and because a greater heat than 27° of Wedgwood could not be applied to them, Sir James prepared to resume the experiments with the gun-barrels.

This new series of experiments was begun in 1803; and after many changes in the apparatus formerly described, and many trials of different kinds of iron, a Siberian iron, known to the workmen by the name of the *old sable*, was found to have the power of confining the carbonic acid, when subjected to the action of intense heat, much better than any other substance. Sir James was now able to produce specimens that were crystallized, and bore other unequivocal marks of complete fusion.

These marks of fusion were visible, even when, in consequence of the great heat applied, the barrel had not proved quite sufficient to resist the expansive force of the gas. Thus, in one where the pyrometer indicated 63°, the barrel yielded by the longitudinal opening of the fibres (if they may be called so) of the iron; 'yet the carbonate appeared evidently to have boiled over the lips of the little tube in which it was enclosed, and to have run down the sides of it. The substance in general had a frothy appearance, with large round cavities, and a shining surface. In other parts it was interspersed with angular masses,' &c. p. 116.

In all the experiments, however, when the temperature was very high, and when no other substance, but the little portion of atmospheric air was used, as described above, to prevent the fusible metal from making its way through the iron tube, the compression was never very complete, and the loss of carbonic acid was often considerable. Where the heat was more moderate, excellent specimens were often produced. In one instance, where the heat did not exceed 25°, the loss of weight was not 3 *per cent.*; and the upper surface of the chalk bore a set of white crystals, with shining facettes, large enough to be distinguished by the naked eye, and seeming to rise out of the carbonate.

In some cases, the action of the carbonate on the small porcelain tube was apparent, which action must be ascribed to the presence of the carbonic acid, as, by former experiments, it had been made evident, that quicklime cannot act on porcelain, even at the temperature of 79°.

In the conduct of these experiments, it had been observed, that when the small portion of air introduced into the apparatus for the purpose of restraining the expansion of the fusible metal, was so placed as to be exposed to great heat, the product obtained was, *cæteris paribus*, more perfect than when the same air was lodged in the part of the tube that was less heated during the operation. It seemed clear, that this could arise from

no cause but the increased elasticity of the air in the former situation. This observation determined Sir James to adopt a measure which had been some time before suggested to him by Dr Kennedy, viz. to employ aqueous vapour in the place of common air, for counteracting the expansion of the fusible metal. This expedient was attended with great success. The loss of weight was reduced to 1.5, 0.47, and even to .074 *per cent.*, amounting, in the last case, to no more than $\frac{1}{1351}$ of the whole. The pounded chalk was brought into the state of a saline marble, accompanied with crystallization and other evident marks of fusion. The heat applied in these instances did not exceed 30°. The weight of the water introduced, was from half a grain to a grain.

In order to remove all idea of any mixture from without having assisted the fusion of the carbonate, several experiments were made with the carbonate first enclosed in small crucibles of platina, and then placed in the barrel, the other circumstances remaining as before. In this way, many excellent products were obtained; and some of them, from carbonate of lime, rendered as pure as could be done by the most skilful chemists.

'Some pure carbonate of lime, prepared by Mr Hatchett, was subjected to trial in a platina crucible. The great purity of this substance rendered it extremely refractory, so that many of the experiments failed. At last, however, results were obtained similar to those already described. In one of these, where a strong heat was used, the mass produced was of a firm texture, had a saline fracture, and was moulded in several places on the little platina crucible. In another trial, when the barrel failed, the carbonate was found, when cold, in a state of froth, which clearly proved, that, when hot, it had been fluid.'

In these last experiments, every possible cause of error appears to be removed, and with them the enumeration terminates.

A matter, which was no doubt of great importance in these experiments, was to have the quantity of the compression compared with some known standard. This accordingly did not escape the attention of Sir James Hall. He contrived that the elasticity of the gas and steam should be constrained, not by the cohesion of the iron barrel, but by the application of a weight, nearly after the manner of the safety-valves in a steam engine. The particular description of this contrivance may be seen p. 140. The results are reduced into a table, p. 184, from which we derive these general conclusions, that a compressing force, equal to the weight of 52 atmospheres, or of 1700 feet of sea, is sufficient for the formation of limestone, if a due degree of heat be applied; that under 86 atmospheres, or about 3000 feet of water, a complete marble may be formed; and, lastly, that with a pressure of 173 atmospheres, or 5700 feet, or little more than a mile of

sea, the carbonate of lime is made to undergo complete fusion, and to act powerfully on other earths.

These compressions are, comparatively, by no means great. The force of gunpowder, at the least estimate, is equal to the weight of 1000 atmospheres.

If we are to suppose that nature has employed heat in the consolidation of mineral bodies, we must suppose the above to be the *minimum* of compression. The known depth of the sea affords, however, a much greater extent of compressing force; eleven miles, as Sir James Hall observes, being the mean depth of the ocean, according to inferences made by La Place from the phenomena of the tides. To us, it seems probable, that nature must have employed both greater heat and greater pressure than the above: as, with all the precautions employed, even with the best and strongest iron-barrels, the confinement of the carbonic acid was imperfect, in a considerable degree, whenever the heat exceeded 25°. Nature, though so economical in the employment of her resources, would not probably use the *minimum* of force in a case where such frugality must be often accompanied with a total failure in the effect. We must suppose, therefore, in general, that a much more intense heat was employed, and, if so, a much greater compression also. If it were true that the elasticity of gaseous fluids, like the elasticity of aqueous vapour, increases in geometrical, as the temperature increases in arithmetical progression, it might happen that the whole pressure of eleven miles would be necessary, when the heat became as great as 200 of Wedgwood's pyrometer.

In the prosecution of these experiments on calcareous bodies, some facts occurred which turned the attention of Sir James Hall to the consolidation of inflammable substances.

'Observing,' he says, 'in many of the last mentioned class of experiments, that the elastic matters made their escape between the muzzle of the barrel and the cylinder of lead, I was in the habit, as mentioned above, of placing a piece of leather between the lead and the barrel; in which position, the heat to which the leather was exposed, was necessarily below that of melting lead. In an experiment, made on the 28th November 1803, in order to ascertain the power of the machinery, and the quantity of metal driven out by the expansion of the liquid, there being nothing in the barrel but metal, I observed, as soon as the compressing apparatus was removed, (which on this occasion was done while the lower part of the barrel was at its full heat, and the barrel standing brim full of liquid metal), that all the leather which lay on the outside of the circular muzzle of the barrel, remained, being only a little browned and crumpled by the heat to which it had been exposed. What leather lay within the circle had disappeared; and, on the surface of the liquid metal, which stood up to the lip

of the barrel, I saw large drops of a shining black liquid, which, on cooling, fixed into a crisp black substance, with a shining fracture, exactly like pitch or pure coal. It burned, though not with flame. While hot, it smelt decidedly of volatile alkali. The important circumstance here, is the different manner in which the heat had acted on the leather, without and within the rim of the barrel. The only difference consisted in compression, to which, therefore, the difference of effect must be ascribed; by its force, the volatile matter of the leather which escaped from the outward parts, had, within the rim, been constrained to remain united to the rest of the composition, upon which it had acted as a flux, and the whole together had entered into a liquid state, in a very low heat. Had the pressure been continued till all was cool, these substances must have been retained, producing a real coal.' p. 149–50.

This and other similar observations induced him to make a series of experiments with animal and vegetable substances, and with coal, the result of which was laid before the Royal Society of Edinburgh in 1804. Of these experiments, he says, in the Memoir before us—

'I have made some experiments with coal, treated in the same manner as the carbonate of lime: but I have found it much less tractable; for the bitumen, when heat is applied to it, tends to escape by its simple elasticity, whereas the carbonic acid in marble is in part retained by the chemical force of quicklime. I succeeded, however, in constraining the bituminous matter of the coal, to a certain degree, in red heats, so as to bring the substance into a complete fusion, and to retain its faculty of burning with flame. But I could not accomplish this in heats capable of agglutinating the carbonate; for I have found, where I rammed them successively into the same tube, and where the vessel has withstood the expansive force, that the carbonate has been agglutinated into a good limestone, but that the coal has lost about half its weight, together with its power of giving flame when burnt, remaining in a very compact state, with a shining fracture. Although this experiment has not afforded the desired result, it answers another purpose admirably well. It is known, that where a bed of coal is crossed by a dyke of whinstone, the coal is found in a peculiar state in the immediate neighbourhood of the whin: the substance in such places being incapable of giving flame, it is distinguished by the name of *blind coal*. Dr Hutton has explained this fact, by supposing that the bituminous matter of the coal has been driven, by the local heat of the whin, into places of less intensity, where it would probably be retained by distillation. Yet the whole must have been carried on under the action of a pressure capable of constraining the carbonic acid of the calcareous spar, which occurs frequently in such rocks. In the last mentioned experiment, we have a perfect representation of the natural fact; since the coal has lost its petroleum, while the chalk in contact with it has retained its carbonic acid.' p. 151.

In some other trials, animal and vegetable substances were subjected to the joint action of heat and compression. These, no doubt, are peculiarly interesting, as tending to explain the way in which a substance passes from the animal, or vegetable, into the mineral kingdom. They appear, however, to be accompanied with considerable difficulty.

'I have made some experiments of the same kind with vegetable and animal substances. I found their volatility much greater than that of coal: and I was compelled, with them, to work in heats below redness; for, even in the lowest red-heat, they were apt to destroy the apparatus. The animal substance I commonly used was horn, and the vegetable, saw-dust of fir. The horn was incomparably the most fusible and volatile of the two. In a very slight heat, it was converted into a yellow red substance, like oil, which penetrated the clay tubes through and through. In these experiments, I therefore made use of tubes of glass. It was only after a considerable portion of the substance had been separated from the mass, that the remainder assumed the clear black peculiar to coal. In this way I obtained coal, both from saw-dust and from horn, which yielded a bright flame in burning.' p. 152.

When we look back on the whole of these experiments, and consider their novelty, their difficulty, and their importance, we cannot but regard the author of them as well entitled to the attention and gratitude of the scientific world. The task he entered on, involving a series of operations, tedious, delicate, and often dangerous, could not be accomplished without the exertion of much labour, patience, and ingenuity. He has had his own instruments to invent, and the use or manipulation of them to acquire. This was so much the case, that the pyrometer constructed several years ago by Wedgwood, was now to be made anew; and the art of constructing it was to be re-invented, before it could be made useful in these experiments. All these circumstances unite to give interest to the Memoir before us. Indeed, the progress of philosophical discovery, affords few spectacles more gratifying and instructive, than that of a sagacious and inventive man, purusing a scientific object through regions hitherto unexplored—watching every indication afforded either by failure or success—guiding his course by the light which he acquires as he proceeds—and, after repeated corrections, arriving ultimately at the truth.

The application of the general conclusion deduced from these experiments to the purposes of Geology, is not difficult to be perceived, and is stated, we think, with great fairness and precision, in the conclusion of this Memoir. It is certain that fire exists in the bowels of the earth; and, to assume the existence of it, is therefore only to state a fact of which we have the most undeniable evidence. It is true, that volcanic fire has been represented by some as residing near the surface,—

as merely superficial, and as making no part of what may be called the regular economy of the mineral kingdom. There are, however, many strong reasons for doubting the truth of this hypothesis. The great distance to which the agitation of volcanic eruptions frequently extends, the long continuance of volcanoes in the same place, and the nature of the substances thrown out by them, all combine to prove, that the source of their activity is lodged deep under the surface of the earth.

It is therefore conformable to the fact, to suppose, that fire, or great heat, has acted on mineral bodies in the bowels of the earth. But if it did act on them in that situation, it must have done so with the accompaniment of great compression, arising from the weight of water, or of earth and stone that was superincumbent. In such circumstances, the fire applied to calcareous earth, agreeably to the results of the preceding experiments, instead of calcination, would produce the fusion of the earth; so that, after cooling, a stony substance would be formed, having, according to circumstances, the characters of limestone, marble, or calcareous spar.

In this manner, then, the experiments which we have now described, afford sufficient evidence that the consolidation of limestone or marble *might* be produced by subterraneous fires, and that the theory which assumes this to be true, does not ascribe to the agents which it employs, any power inconsistent with their nature. It assumes nothing that is not perfectly conformable to an established law of the material world; for the knowledge of which we are no longer obliged to have recourse to analogy, or indirect evidence, but can now appeal to the very conclusive and interesting series of experiments which has just been described.

The proposition, then, which we must consider as fully proved by these experiments is, that the calcareous rocks *may* have been consolidated by fire. But that they *have actually been* so consolidated, is a proposition different from the former, and is not deducible with equal certainty. Nature may have more ways than one of effecting the same end; and we cannot, without further investigation, determine which of them she has really followed. It is, however, even supposing the matter to rest here, a great deal, to have shown that the cause employed is quite adequate to the effect ascribed to it; and we doubt if any other hypothesis, concerning the formation of rocks, possesses the same advantage, except that concerning the formation of whinstone, which, by former experiments, Sir James Hall has so happily illustrated. Indeed, there is but one way in which a geological theory, or any theory, where the causes are beyond the reach of actual observation, can possess more evidence than a *synthetical* argument like the preceding is able to afford. This happens, when the principle

of the theory being first assumed, in consistency with known facts, is afterwards found to explain, in a simple and satisfactory manner, a very varied and complex system of phenomena.

It is not for us, who pretend not to the character of geologists, and only venture to give an opinion here as on a matter of general science, to say whether the theory invented by Dr Hutton, and so ably supported in the paper before us, is in full possession of the advantage just stated. The time perhaps is not yet come when this question can be brought to a complete decision, and when philosophers can determine finally, whether the element of fire or of water is the consolidating power of the mineral kingdom. One thing, however, is evident, that a theory, which, like Dr Hutton's, comes forward, assuming principles that are shown by experiment to be true, and conformable to nature, is entitled to a fair hearing in all its parts, and is not to be rejected without a very accurate comparison with the phenomena of geology on the one hand, and with the conclusions of different theories on the other. In the mean time, we will hope that the ingenious author, who has bestowed so much time, and exerted so much talent in contriving and executing these valuable experiments, will not suffer himself to be diverted from this course of investigation. He is in possession of an art, acquired by much expense of time, labour, and reflection; an art, of which, though he has carefully explained the principles, no man can learn the practice without much study and long application. With the exclusive possession, as we may say, of this powerful engine, no inducement can be wanting to engage him in the farther application of it to geological or chemical researches. Among these are many similar to that which is here so successfully pursued. What modifications do the effects of heat receive from compression when applied to silicious or argillaceous bodies? Would the fire which, acting on clay in the open air, produces a brick, if it acted on it under pressure, produce an argillaceous schistus, or, with more intensity, would it melt it into a whinstone or a porphery? Above all, the origin of inflammable minerals remains to be investigated; and, though begun by this ingenious experimenter, is far from being thoroughly explored. This last research is highly interesting, as it seems to point to the avenues which lead from the animal or vegetable into the mineral kingdom, and may explain by what means the transition is made from two regions to a third, that to us appears so distant from them both. But we forget that these objects must be much more familiar to the author of these experiments than they can be to us—that he cannot stand in need of our exhortations, and much less of our instructions.

ART. III. *On Vaccine Inoculation.* By Robert Willan, M.D. F. A. S. 4to. pp. 160. London, 1806.

Commentaries on the Lues Bovilla, or Cow-Pox. By Benjamin Moseley M.D., Author of a Treatise on Tropical Diseases, &c. and of a Treatise on Lues Bovilla, or Cow-Pox; Physician to the Royal Military College at Chelsea, Member of the College of Physicians of London, &c. &c. Second Edition. 8vo. pp. 260. London, 1806.

A Reply to the Antivaccinists. By James Moore, Fellow of the Royal College of Surgeons, London. 8vo. pp. 70. London, 1806.

Observations on the pernicious Consequences of Cow-Pox Inoculation, containing many well authenticated Cases, proving its insecurity against the Small-Pox. By Robert Squirrel, M.D. Second Edition. 12mo. pp. 74. London, 1806.

MEDICAL subjects ought in general, we think, to be left to the Medical Journals; but the question as to the efficacy of vaccination is of such incalculable importance, and of such universal interest, as to excuse a little breach of privilege. We let our lawyers manage actions of debt and of trespass as they think proper, without our interference; but, when the case touches life or reputation, we insist upon being made parties to the consultation, and naturally endeavour at least to understand the grounds of the discussion. The question now before us is nothing less than, whether a discovery has actually been made, by which the lives of *forty thousand* persons may be annually saved in the British islands alone, and double that number protected from lengthened suffering, deformity, mutilation and incurable infirmity. This is not a question, therefore, which is interesting only to the physiologist or the medical practitioner: it concerns nearly every community in the universe, and comes home to the condition of almost every individual of the human race; since it is difficult to conceive, that there should be one being who would not be affected by its decision, either in his own person, or in those of his nearest connexions. To the bulk of mankind, wars and revolutions are things of infinitely less importance; and even to those who busy themselves in the tumult of public affairs, it may be doubted whether any thing can occur that will command so powerful and permanent an interest, since there are few to whom fame or freedom can be so intimately and constantly precious, as personal safety and domestic affection.

Every body knows, that ever since Dr Jenner proposed the practice of vaccination as a preventive of small-pox, a controversy has been maintained as to the safety and efficacy of that new inoculation. This controversy has now lasted for upwards of eight years; in the course of which it has not only given birth to an infinite number of publications of all descriptions, but has been illustrated by a vast multitude of instances and experiments, from which both parties have attempted to draw conclusions in favour of their own opinions. Although the subject is not perhaps entirely exhausted, and the zeal of the disputants assures us that it will not be prematurely abandoned, yet it appears to us, that there is evidence enough already produced to determine the opinion of all impartial judges; and, at all events, we think it right, that the import of that evidence should be fairly laid before the public, in a popular and concise form. It is among the first duties of those who conduct a work that has obtained an extensive circulation, to diffuse the knowledge of every thing that may be serviceable to mankind, and to consider the amusement of their readers, or the formation of their taste, as very subordinate objects to the communication of useful intelligence. We have, therefore, placed at the head of this article, the names of the most recent publications on both sides of the question; and propose, after giving a short view of the discovery itself, and of the evils to which it professed to be a remedy, to lay before our readers the result of the reasonings and investigations that have hitherto been made public with regard to it.

It is fortunately no longer necessary to cast a glance on the state of the original and natural small-pox, before any thing had been devised for the mitigation of the horrors with which it was attended. A pestilence it was, more desolating and destructive than that which now engrosses the name; and, after repeatedly laying waste some of the fairest provinces of the old world, proceeded to depopulate extensive regions in the new. With all the advantages of our long experience, and improved medical skill, the natural small-pox is still fatal, in the most favourable situations in Great Britain, to more than one in every six who are infected. *

Inoculation was brought into use nearly one hundred years ago; and a most noble and blessed discovery it certainly was, as it put it in the power of every one to diminish the hazard to which he was formerly subjected, in a most important degree. Of those who have the disorder naturally, we have already said, that one is

* See Dr Sim's evidence before the Committee of the House of Commons, and the papers delivered in by him.

found to die in six. Of inoculated patients, only one dies in 250. This at least is Dr Willan's calculation; and we are persuaded that it is very near the truth. In London, where it ought to be best ascertained, some eminent practitioners have stated the proportion to be so high as 1 in 100. The zealous antivaccinists have denied it to be greater, under judicious treatment, than 1 in 1000. It cannot be denied, however, that besides this risk to life, the disease, even under this mitigated form, has frequently proved an exciting cause to scrophula, and other dreadful distempers, and has often been attended with blindness and deformity.

In this situation, it was not perhaps to be wondered at, that many individuals hesitated to expose their children spontaneously to a risk of such magnitude, and flattered themselves that, by carefully secluding them from occasions of infection, the danger might be smaller on the whole than that which they would certainly encounter in inoculation. The consequence of these impressions, independent of many superstitious antipathies, was, inevitably, that inoculation could never be *universally* adopted; and the result, however extraordinary it may at first appear, has been clearly proved to have been *an increased mortality* upon the whole, in consequence of its partial adoption.

To explain this, it is only necessary to recollect, that the inoculated small-pox is an *infectious* disease, as well as the natural small-pox; and that those who take it naturally from an inoculated patient, uniformly have it as violently as if they had been infected from a case of spontaneous disease: it is to all intents and purposes the natural small-pox again in them. Now, if it be considered that several hundred thousand persons have been annually inoculated in these kingdoms for the last fifty years, it will be easy to calculate the immense addition that must have been made in that period to the cases of actual disease, and the increase of natural small-pox that may be supposed to have arisen from this constant multiplication of the sources and centres of infection. From a calculation made by Dr Heberden, without any view to this question, it appears accordingly, that for the last thirty years of last century, there were ninety-five persons died of small-pox in London, out of every thousand reported in the bills of mortality; while the average number, before the introduction of inoculation, was only seventy in every thousand. Another calculation, made upon two periods of forty years before and after inoculation was adopted, makes the proportion only as eighty-nine to seventy-two; but, whichever of these we adopt, the increase of the total mortality must appear to be very formidable; more especially if it be considered that these calculations are made for the case of the metropolis, where the risk of infection, even before the use of inoculation, must at

all times have been greater than in the less crowded districts of the country. In a general view, we may safely set down the additional mortality produced by the partial use of this admirable remedy, at little less than one fourth of the whole. Inoculation, therefore, though in itself a most precious and beneficent invention has not hitherto been of any essential benefit to the community. Though many individuals have profited by it, it has destroyed more lives, upon the whole, than it has preserved, and has aggravated the sufferings of those who have refused to employ it, in a greater degree, than it has relieved those who have availed themselves of its protection. What sort of an evil the small-pox still is, in spite of the vaunted palliative of inoculation, may be judged of from the fact, that forty thousand persons are supposed to die of it every year in Great Britain, and that it actually kills one out of every ten who enter the bills of mortality.

In such a situation, it will be allowed that there was a sufficient motive to seek for some further improvement in our mode of managing this disease; and that it was natural to prosecute with enthusiasm every suggestion which held out a prospect of finally disarming this cruel depredator on the lives and happiness of the community. This is what Dr Jenner professes to have done by the introduction of the cow-pox. The best and most authentic account of his discovery is to be found in the evidence delivered by him when examined in 1802 before a Committee of the House of Commons. For the sake of such readers as may not have that publication at hand, we shall now give a short abstract of this simple and interesting narrative. The first part may be given in Dr Jenner's own words.

'My inquiry into the nature of the cow-pox commenced upwards of twenty-five years ago. My attention to this singular disease was first excited by observing, that among those whom in the country I was frequently called upon to inoculate, many resisted every effort to give them the small-pox. These patients I found had undergone a disease they called the Cow-pox, contracted by milking cows affected with a peculiar eruption on their teats. On inquiry, it appeared that it had been known among the dairies time immemorial, and that a vague opinion prevailed that it was a preventive of the small-pox. This opinion I found was, comparatively, new among them; for all the older farmers declared they had no such idea in their early days: a circumstance that seemed easily to be accounted for, from my knowing that the common people were very rarely inoculated for the small-pox, till that practice was rendered general by the improved method introduced by the Suttons: so that the working people in the dairies were seldom put to the test of the preventive powers of the cow-pox.'

Upon inquiry at the medical practitioners in the country, Dr Jenner then tells us he was at first mortified to find that they all

agreed in holding, that cow-pox was not to be relied on as a certain preventive of small-pox; and their report seemed to be confirmed by the actual occurrence of small-pox in several persons who were said to have had the cow-pox. Dr Jenner, however, was not willing to abandon the pleasing prospect that had opened to him, and resolved to inquire into the matter more carefully than any one seemed previously to have thought of doing. The first discovery he made was, that the cow was subject to a variety of distinct eruptions upon her teats, all of which were capable of producing ulceration on the hands of the milkers, and passed in the dairies by the indiscriminate appellation of cow-pox. After a short course of observation, he was easily able to distinguish the true cow-pox from other accidental eruptions, and flattered himself that he had thus discovered the true cause of the apparent uncertainty of a preventive, the powers of which were universally admitted to a certain extent. His hopes, however, were damped a second time, when he found that some persons who had been infected from the genuine cow-pox, had, nevertheless, proved liable to variolous infection, and that one was sometimes effectually protected, when another infected from the same sore, proved liable to after contagion. By diligent and continued observation, however, he was fortunately enabled to explain this anomaly also. He ascertained, by repeated experiments, that when the matter was taken from the ulcer or sore on the cow, after a certain stage of its progress, it produced a sore in the human body of a character altogether different from that which resulted from an earlier infection, and that it was only the disorder communicated in the earlier stages of the case, and before the matter originally secreted had undergone any change or decomposition, that had the power of shielding the patient from the infection of small-pox.

Having brought his observations so far to maturity, it occurred to him to try the experiment of propagating the disease by inoculation, first from the animal, and afterwards from one human creature to another. In the year 1796, he accordingly inoculated a young man from the hand of a milker, who had the distinctive symptoms of the genuine cow-pox, and had the pleasure of finding that, when inoculated for the small-pox, at the distance of some months, he completely resisted the contagion. The experiment was afterwards enlarged; and, after inoculating some hundred children, and putting them, at different intervals, to the test of a subsequent inoculation for small-pox without effect, he ventured to communicate his discovery to the world in a treatise published in 1798, which was followed up the year after, by a still longer list of experiments and observations. In these works, Dr Jenner suggested, that the disease itself probably was not original in the

animal from which it took its name, and that several circumstances led him to believe that it originated from the distemper called the *grease* in the heels of *horses*, and was communicated to the cow by being milked by persons employed in dressing such horses. The cow-pox was uniformly unknown in those dairies where the milking was performed by women; and in all the instances in which Dr Jenner could trace its introduction, he found that the milkers had been recently before in the habit of handling horses affected with the grease. This conjecture, it is said, has since been verified, by inoculating the cow from the grease directly, which produced the genuine form of the cow-pox.

The first public opposition that was made to this discovery, was in a publication of Dr Moseley's in 1798. In this work, which was entitled, a Dissertation on Sugar, the Doctor ingeniously contrived to introduce a violent philippic against the new practice of vaccination, in which, as he had no experience or observation to found upon, he contents himself with pouring out an immense quantity of abuse, in a style of which we shall by and by indulge our readers with a specimen, and summing up his argument in the following alarming interrogations. 'Can any person say what may be the consequence of introducing a *bestial* humour into the human frame after a long lapse of years? Who knows, besides, what *ideas* may rise in the course of time from a *brutal* fever having excited its incongruous impressions on the brain? Who knows, also, but that the human *character* may undergo strange mutations from *quadrupedan* sympathy, and that some modern Pasiphae may rival the fables of old?'

This delectable diatribe was republished three times, in different forms, before it attracted any general notice; but the enemies of the practice having been extremely active in spreading alarming reports as to its consequences among the lower people, the following advertisement was published in July 1800.

'Many unfounded reports having been circulated, which have a tendency to prejudice the mind of the Public against the Inoculation of the Cow-Pox, we, the undersigned Physicians and Surgeons, think it our duty to declare our opinion, that *those persons who have had the Cow-Pox are perfectly secure from the infection of the Small-Pox.*—We also declare, that *the inoculated Cow-Pox is a much milder and safer disease than the inoculated Small-Pox.*'

This certificate was signed with the respectable names of Drs Baillie, Lettsom, Garthshore, Willan, Lister, Vaughan, and Thornton; and by those of Messrs Cline, Abernethy, Ashley Cooper, Moore, and by five and twenty other physicians and surgeons of the first reputation in the metropolis. Some candid and interesting discussion, as to the symptoms and effects of the

disease, took place about the same time, between Dr Jenner and Drs Woodville and Pearson, under whose superintendance the practice was prosecuted to a great extent. In 1801, Mr Ring published one thousand and forty chaotic pages in defence of the new practice; and in 1802, the subject was submitted to the consideration of a Committee of the House of Commons, who, after taking the evidence of Drs Ash, Sir W. Farquhar, Blane, Woodville, Baillie, Pearson, Heberden, and thirty-two other practitioners of the first eminence in London, gave a report decidedly favourable to the new system. Out of the forty persons examined upon this occasion, indeed, there were only three, viz. Dr Moseley, Dr Rowley, and Mr Birch, who expressed any doubts of its efficacy; and at this time, it is remarkable, that neither of these gentlemen went beyond the expression of doubt; all the rest were decided and confident in their testimony; and Dr Woodville stated, in particular, that, in the last six months, he had vaccined, at the Small-Pox Hospital, 7,500 patients, the half of whom had been since inoculated with the small-pox matter, without the smallest effect being produced in any one instance.

This ample and public testimony seemed for a while to set the question at rest; and, except in a few obscure pamphlets, and communications to the medical journals, little was heard in opposition to it, till 1804, when Mr Goldson of Portsmouth published six cases of small-pox occurring after vaccination, accompanied with observations calculated to shake the confidence which was now very generally placed in the security of the Jennerian inoculation. These were answered by Mr Ring and others, who endeavoured to show that, in some of his cases, Mr Goldson's patients had not had the genuine cow-pox in the first instance, and that in others, they had not had the genuine small-pox thereafter. This part of the controversy was conducted with temper, and with a reasonable degree of candour. In the end of the same year, however, Dr Moseley published his treatise on the cow-pox, in which the ravings of Bedlam seemed to be blended with the tropes of Billingsgate. Dr Rowley followed on the same side, and in the same temper, with 500 cases of 'the beastly new diseases produced from cow-pox,' and attracted customers, by two coloured engravings at the head of his work, of 'the cow-poxed, ox-faced boy,' and 'the cow-poxed, mangy girl.' The battle now became general. The Reverend Rowland Hill thundered in defence of vaccination—Dr Squirrel leaped from his cage upon the whole herd of vaccinators—Mr Birch insisted upon stating his serious reasons for objecting to cow-pox—Drs Thornton and Lettsom chanted pæans in its praise—Mr Lipscomb strutted forward with a ponderous, wordy dissertation on its fail-

ure and mischiefs; and Messrs Ring, Merriman, and Blair, answered every body,—and exasperated all their opponents, by their intemperance and personality. Charges of murder and falsehood were interchanged among the disputants, without the smallest ceremony; the medical journals foamed with the violence of their contention; it raged in hospitals and sick-chambers; and polluted, with its malignity, the sanctity of the pulpit, and the harmony of convivial philanthropy.

In the whole course of our censorial labours, we have never had occasion to contemplate a scene so disgusting and humiliating as is presented by the greater part of this controversy; nor do we believe that the virulence of political animosity or personal rivalry or revenge ever gave rise, among the lowest and most prostituted scribblers, to so much coarseness, illiberality, violence, and absurdity, as is here exhibited by gentlemen of sense and education, discussing a point of professional science with a view to the good of mankind. At one time, indeed, we were so overpowered and confounded by the rude clamour and vehement contradictions of the combatants, that we were tempted to abandon the task we had undertaken, and leave it to some more athletic critic to collect the few facts and the little reasoning which could be discerned in this tempest of the medical world. We were encouraged, however, to proceed by the excellent pamphlet of Mr Moore, of which we have perfixed the title to this article; and, after refreshing ourselves with the sober sense and accurate information of Dr Willan, we at last found courage to go through Dr Moseley's commentaries, and the exquisite observations of Dr Squirrel.

Before entering into the particulars of the controversy which has been thus warmly maintained, or endeavouring to lead our readers to form any opinion from the evidence produced in th course of it, we think it proper to make one or two general remarks, on what may be called the external character of the debate, and on the circumstances which may impress us with a favourable or unfavourable opinion of the respective disputants, independent of the intrinsic weight of their proofs and reasonings. There are some cases which cannot be reached by argument or evidence, in which we must trust to the decision of authority; and there are others, still more numerous, in which the preponderance of conflicting authorities must be determined by what we can learn of the character and motives of those who bring them forward.

Now, the first circumstance which seems calculated to make an indelible impression upon an ordinary mind, in a question of any difficulty, is where there is a decided majority of competent judges in favour of one side of it. In any disputable point

of law or medicine, most people would be pretty well satisfied with an opinion adhered to by nine tenths of the profession; and, imputing the dissentient of a small minority to caprice or ignorance, would probably never think it worth while to make any further inquiry. Now, the bitterest enemies of vaccination will not deny, that more than nine tenths of the medical world are decidedly and zealously in favour of it; and that all their demonstrations of its dangers and terrors have been insufficient to convert a single one of their brethren from so damnable and dangerous a heresy.

But testimonies, it may be said, should be weighed, and not numbered; and a few judicious voices should outweigh 'a whole theatre' of others. Here, again, we are afraid the vaccinators will have a splendid and indisputable triumph. The only physicians, we think, that have publicly combated the doctrines of Dr Jenner, are Drs Moseley, Rowley, and Squirrel. Now, without intending the least disparagement to those three ingenious gentlemen, we certainly may be permitted to doubt, whether they stand quite so high in the public opinion as some of those to whom they have opposed themselves, or even whether an opinion signed by all three would have so much weight, with competent judges, as the single judgement of Baillie, Heberden, Willan, Farquhar, Pearson, or Vaughan. As for the authority due to Messrs Birch, Rogers, and Lipscomb, we should humbly conceive that it might be fully balanced by that of Cline, Abernethy, Ashley Cooper, and Home. If the mere mention of these names were not sufficient to decide the question of authority, it would be easy for us to match each of the antivaccinists with at least ten London practitioners of higher name than himself, and of learning and opportunities as unquestionably superior. We confine the parallel to London, to give the antivaccinists all the advantage in our power; for, in the country at large, we believe, they have not one respectable practitioner on their side in five hundred. In this great seat and school of medicine, we are assured, they are without a single public adherent. If the question is to be settled by authority, therefore,—by the number or the respectability of those who have taken part in it, the antivaccinists can have no pretension to be listened to. If a clear opinion be given by all the leading counsel at the Bar, and an unanimous judgment be pronounced in conformity to it by the twelve Judges of the land, what should we say of a few Old Bailey pleaders and jobbing attorneys, who should appeal to the public in behalf of an opposite conclusion?

But eminent men may have interests and passions as well as other persons, and these may bias their judgments, or suborn their testimony; and it is right that a popular appeal should be allow-

ed, to control or expose those who might otherwise overbear every thing by their combination. This, no doubt, is a very important consideration; and it may help to explain some things that would otherwise appear very unaccountable in this controversy; though, we are afraid, not much to the advantage of the antivaccinists. It is a fact universally admitted, that the small-pox has, for a very long period, been the most lucrative of all diseases to the medical faculty in general, and that, whatever benefit the world at large might derive from its extirpation, the consequences, in a pecuniary point of view, would be extremely unfavourable to them. This has not escaped the sagacity of Dr Willan, when, probably with a view to abate the rancour of the antivaccinists, he recommends that the inoculation and subsequent cure of the patient should always be left to a regular practitioner; and adds, 'that indeed they deserve their reward, since, by adopting and encouraging the new practice, they abandon what has for centuries been the most lucrative part of their profession.' Of the light which this observation throws upon the management of the controversy, and of the influence which it ought to have with us in judging of the argument before us, we think it better to speak in Mr Moore's words, than in our own.

'It must be owned, indeed,' he observes, 'that, on this occasion, there was superadded to the general tendency of doctors to differ, a particular motive, which rarely fails of having that effect upon all mankind. Small-pox was the source of no inconsiderable portion of the income of every medical practitioner; insomuch, that neither physicians nor surgeons would abandon this disease to the management of the other. The physician claimed it as a contagious fever, and therefore a medical case; but as the surgeon was the inoculator, he did not choose to relinquish the profits of the subsequent treatment. While each was eager for the whole, it was hardly to be expected, that a plan to take it from both, would be kindly received by either.

'Jenner's discovery was a touchstone, to detect what proportion of selfishness alloyed the human heart. It was calculated to make known, whether the scenes of misery, which medical men are compelled to witness, blunt their feelings. The result has certainly reflected distinguished honour on the Faculty; for the plan to exterminate the small-pox, has been zealously adopted by the medical men of every part of the world which it has reached. There are, however, and I acknowledge it with reluctance, a few practitioners, who must be excluded from participating in the praise thus acquired by the majority.' p. 4. 5.

It appears, then, that the great multitude of learned and judicious men, who have given their sanction to this practice, have done so in direct opposition to their own pecuniary interest, to their known dislike of rashness and innovation, and to that natu-

ral jealousy with which they must at first have regarded a discovery so simple and important, in the merit of which they could claim no share. The few who have opposed vaccination, have acted, it must be admitted, exactly as those principles, with which the others had to struggle, would have induced them to act; and, in estimating their comparative authority, it is impossible not to impute something to the operation of such powerful agents. We are unwilling to urge this consideration very far; but it cannot be forgotten, when prejudice and bias are spoken of, that the medical advocates for vaccination give their testimony in opposition to their own interest and vanity, and that its opponents give theirs in conformity to the dictates of those principles.

There is still one general observation to be made on the history and complexion of this debate, which we are afraid will go as far to discredit the arguments of the antivaccinists, as any which have now been suggested. Almost all those who now oppose the practice of vaccination, and insist upon the proofs of its failure and mischievous effects, opposed it with equal vehemence and confidence, before they pretended to have heard of its failure or bad consequences at all. Dr Moseley, of whose language on the subject, in 1798, the reader has already had a specimen, has himself stated that his opposition to it was founded at that time 'on the basis of theory;' and, two years after he had three times reprinted that miserable specimen of scurrilous buffoonery, he informed the Committee of the House of Commons, that he did not himself know of any instance in which it had either failed to prevent small-pox, or been followed by constitutional diseases, although he had heard of some such things from persons, none of whom he could then recollect, or mention to the Committee. Mr Birch makes very nearly the same statement. Thus, we find Dr Moseley, in 1798, as full of contempt and abhorrence for vaccination, as he is at this moment, though it is certain that at that time he had neither read nor seen any thing that was not decidedly in its favour. It must be allowed that this disposition to oppose, before there were any grounds for opposition, does not indicate a very liberal or impartial disposition in an observer; and naturally disposes us to regard with some suspicion the evidence which he may afterwards bring forward in support of his preconceived antipathies. An avowed enemy is rejected as a witness in every court of law; but if it appears that he is not only hostile, but necessarily ignorant, we may well ask what weight can be given to his testimony in opposition to that of impartial persons who must have known much more of the circumstances. We are glad, upon this subject, to avail ourselves once more of Mr Moore's excellent observations.

'If vaccination frequently fails, and occasions miserable consequences, these disappointments and disasters ought naturally to occur most frequently to those who have vaccinated the greatest numbers; and repeated mortifications and reproaches would naturally excite so much vexation, as to induce them to abandon the practice. But, so far from this being the case, those who have vaccinated the most extensively, persist in recommending it with the same zeal as ever; their infatuation continues, though in other respects they are men of distinguished good sense, and good nature.

'Who then are those, who meet with the unlucky failures, and wretched effects of vaccination? The very persons who opposed the practice before any failures could have existed; and when every known fact was favourable. They decried vaccination, from its commencement, among all their acquaintances; they never adopted it, and consequently have seen little of the practice; yet it unaccountably happens, that all the unsuccessful cases fall under their observation.' p. 15, 16.

There is but one other criterion to which we wish to appeal, before entering with our readers upon the precise points that are at issue between these disputants. All the presumptions are against Dr Moseley and his adherents. His opponents are confessedly many, and learned, and judicious; and as he differs from their concurring opinion, the natural inference is, that he is not judicious and learned, and that he cannot be safely relied on as an accurate observer, a sagacious expounder, or a correct reporter of the phenomena. It is possible, however, that this inference may be erroneous;—Dr Moseley and his friends may be persons of transcendent genius and exemplary candour. Reputation may be unmerited, and multitudes may be deceived. If the opposers of vaccination give indisputable proofs of superior talents and better temper than their adversaries, there will be a certain presumption in favour of their conclusions, from the admitted character of the men, independent of the reasons which they may urge in their support. On the other hand, if, from their writings, it be manifest that they are men of weak and uncultivated understanding; that their passions are vehement, and their judgment infirm; that they are ignorant or negligent of the first rules of reasoning, and incapable of stating their opinions in intelligible language, it probably will not appear too much to affirm, that they are entitled to little credit, in a controversy which confessedly requires much accuracy of discrimination, much nice observation, and patient and persevering research. It would not be fair to the reader to lay the statements of the parties before him without making him in some degree acquainted with their character. We shall venture, therefore, to present him with a few extracts from the most recent and most vaunted compositions of the antivaccinists, that he may judge for himself what manner of men they

are that have set themselves thus boldly against the opinion of their most celebrated brethren.

Of this sect, Dr Moseley is the great champion, and perhaps the founder. Our readers may take the following specimen of this learned person's temper, modesty, and taste in composition.

'It is a lamentable reflection, that men of learning should have joined in this *diabolical conspiracy*. But much more lamentable is the reflection, that such men should persevere in it;—wish to remain in mental bondage;—and be as eager in retaining this slavery of thought, as those illiterate and ignorant cow-pox pamphleteers are, who have so pestered the public.

'Driven from post to post, they still struggle for existence; and, with worm-like tenacity of life, they seem determined to expire in the last expedient.

'From this cow-pox medley of weak philosophers, and *strong fools*, the world will form some estimate of the state of physic in England.

'The medical tribe in London, must be viewed in an extraordinary light by people of understanding, when they see what havock Dr Jenner and his cow have made in their intellects.

'Their wild rhapsodies, and devotions for these authors of their distraction, were never equalled without the walls of a Pagan temple.

'One bewildered soul, starting in his phrenzy, vows that "the sweet influence of the Pleiades, and the bands of Orion," are nothing but Jennerian pustules;—then decorates Vaccina with moons and stars,—worships the divine Beast in Pythagorean relationship,—sends her to the Heavens as a Constellation,—and swears he will have a Cow instead of a Bull in the Zodiac.

'Another *cut-throat*, *Smithfield scelerat*, drags Vaccina to the slaughter-house; and in carnivorous hymns, sings the praises of her divisibility on the shambles, in beef-steaks, rounds, and surloins,—like a savage of New Zealand.

'But these ravers are not the men who alone have carried the cow-pox disastrous practice into its widely extended effect. Nor are these the only men, from whom the public will, in due time, expect retribution.

'The *culprits* who keep out of sight, and prompt the mischief, and have not honour enough to renounce, nor courage enough openly to defend their conduct, will not be forgotten.' Moseley's Pref. p. xiii. xiv.

It will be remembered, that Dr Benjamin Moseley is here speaking of such men as Baillie, Farquhar, Heberden, Cline, Cooper, and Abernethy, and, in fact, of the whole practising physicians in London, with the exception of his facetious friend Dr Squirrel. After this, it can excite no surprise to find him exclaiming, that, 'the evasions and base subterfuges which have been resorted to, to support this wicked project, equal in depravity the blackest page in the history of man.' Of his pleasantry and rea-

soning powers, we meet with the following example at the second page of his commentary.

'The public can now discern the "darkness visible" in which they have been enveloped. They can discover a Cow Poxer from another man; and can determine that, though a Cow Poxer may be an human being, it does not follow that he should be rational.

'Cow Poxers have gone a great way, to prove that man is not endowed with reason; and that, though he may be capable of performing, and sometimes addicted to, rational pursuits, yet the source thereof is not radical, nor always present in his composition.

'It appears by their philosophy, that the brain of man is not the proper bed of that numen in which reflection and forethought repose, and cogitate on the fitness, and consequence of his actions.

'Reason, it seems, is only a momentary right way of thinking; which, in the absence of caprice, comes and passes away like a thief; or a shadow; or a lucid interval of sense in the head of a Cow Poxer.

'Reason, they say, and say rightly, gives no pleasure to its possessor; and generally pain to others. Besides, they find it is destitute of the comfortable sodality of folly;—that contagious felicity, in which one fool makes many.

'The public have admitted, since this new light has "purged their visual ray"—that I had a *genuine*, and not a *spurious* paroxysm of reason, about the autumnal equinox of the year 1798:—brought on by reading Dr Jenner's first publication on the Cow Pox.

'In this paroxysm, I denounced the people of England, *en masse*, for being Cow Pox mad.

'Part of its effects are known; and part to be related;—which is the purport of this dissertation.' p. 2, 3.

After narrating a nonsensical and despicable story of a patient vaccinated by the Reverend Rowland Hill, who is said to have broken out afterwards into ulcers, which were followed by patches of hair, "some of it very like cows' hair!" he breaks out into the following rhapsody of low and miserable buffoonery, which we really believe is unequalled for dulness and vulgarity by any thing that ever issued from Grub-Street.

'Rowland Hill may tell people there is no harm in a shaggy skin; and may say the heart of Aristomenes was hairy; and that he was not the worse for it. So the fact certainly was. But then he never had the Cow Pox. Besides, the case is not similar in other respects. Aristomenes was an Athenian general; this poor child is not an Athenian general.

'Rowland Hill may also say, Esau was hairy all over, and that he was not the worse for it. Here again Rowland Hill will be wrong. For it is well known to people who read the Scriptures, that it was from the circumstance of Esau's having an hairy skin, that his cunning mother was enabled to make his brother Jacob cheat him out of his father's blessing.

'Perhaps Rowland Hill thinks there is no blessing but his own worth a farthing. I think differently. Let him consider the loss of power and property which Esau sustained from his hairy skin, and ask himself if he should have liked it.

'This is not all the above child's misery. He has had a constant vaccine diarrhœa upon him ever since he had the Cow-Pox; and his food runs through him involuntarily.' p. 55, 56.

This is sufficiently commiserable; but if we would 'sound the very base string of humility,' we must turn to the Doctor's separate chapters addressed to the said Reverend Rowland Hill; the first of which begins in this manner.

'Rowland,—I bought your phamphlet, entitled, "*Cow-pock Inoculation Vindicated;*" dated the 25th of March 1806.

'I paid a shilling for it. Rowland,—it is not dear. The same quantity of folly, falsehood, and impudence, could not have been bought for twice the money of any other cow-poxer,—from the Ganges to the Mississippi.' p. 189.

We are almost ashamed to pollute our page with the trash that follows; but Dr Moseley is cried up by the antivaccinists as a man of infinite wit and genius; and it is our duty to make his pretensions public. After introducing a paltry piece of buffoonery in a supposed dialogue between Mr Hill and a Lady, the reverend vaccinator is made to conclude as follows.

'Rowland. "And well you may. Madam, I tell you her very dung is a fine poultice for horses' feet, and *greasy heels.* Kings and princes eat it, by way of *mustard*; and Dr Moseley knows it, if he were candid enough to confess it."

'Rowland,—I do confess it. You are very right. Truth sometimes surprises me, but never offends me. I have seen many kings and princes eat voraciously of this cow-pox mustard. Try it, Rowland; and you will never eat Durham mustard again. I will give you the receipt for making it, from a work of the highest authority.

'Mind, Rowland.

"Take the finest part of the filth in the guts of the cow, and season it with salt and pepper. Mix the ingredients well together."

'I know my credit has long stood very low with cow-poxers; but I hope this will raise it; and, as a further confirmation of your correctness, I refer scrupulous readers to the learned work itself; where they will not only find the above receipt, but the following interesting remarks on it.

'This *Mustard*, made with cow-dung, is reckoned a most curious sauce by the Æthiopians,—mind, Rowland—by the Æthiopians;—and they call it *Manta.* But only princes, and very great persons, can attain this royal dish; because it requires much pepper, which all men have not.

'Mind, Rowland. It requires *much* pepper; an article, luckily for Cow-Poxers, not dear in England.' p. 198—200.

Poor Dr Moseley!—Yet this is the gentleman who complains (p. 182. 3.) of 'the rude expressions' of Dr Thornton, and of those 'violations of decorum which communicate so much asperity to discussion,' and who thinks it necessary to tell Mr Hill (p. 225.) that 'his language is licentious, gross, ungentlemanlike, and highly reprehensible.'

Dr Rowley writes worse, if possible, than Dr Moseley; and does not reason any better. He agrees with him in thinking all the advocates for vaccination 'raving mad;' and is almost as eloquent in descanting on 'the horrid, filthy, *beastly* diseases which they have nefariously introduced among mankind.' He is pleased also to say, that 'small-pox is a visitation of God; but the cow-pox is produced by presumptuous and impious man. The former, heaven ordained; the latter is, perhaps, a daring and profane violation of our holy religion; and heaven seems daily to justify this supposition, from the dreadful calamities cow-pox has occasioned.' He afterwards quotes a text in support of this pious opinion, which is too indelicate even to be referred to; and then seriously proposes it 'as a question to be considered by the learned ministers of the gospel of Christ, Whether it be not impious and profane, *to wrest out of the hands of the Almighty the divine dispensations of Providence?*' That these passages are not culled, with any malignant skill, from the Doctor's publication, but are really taken at random, as fair specimens of his writing, our readers may perhaps be more inclined to believe, after perusing the following entire paragraph, which contains the whole of his argument against the possibility of exterminating small-pox. It appears at the 16th page of his book, with this regular title.

'*Small-pox not exterminated, but at this moment epidemic, and never can be exterminated by vain man.*

'The small-pox, in 1805, is, at the moment I am writing this work, *epidemic* in various parts of London, and it must be always epidemic at certain seasons, unless the vaccinators have *more* power than the Almighty God himself; unless they be blasphemous enough to suppose human weakness can oppose the divine ordinance of God, the Creator of man, and all beings. I have lately had under my care some of the worst species of malignant small-pox ever seen, even after *vaccination*, in our small-pox wards at the *St Mary le-Bone Infirmary*, which many of the faculty have seen. The mode of treatment, by mixtures of bark and vitriolic acid, with the comparative view of cow-pox and small-pox inoculation, was read by me before the Honourable Committee of the House of Commons, deputed to examine cow-pox inoculation; the paper was delivered to the Honourable Committee, and, as I understood, was to form part of the Report, but, for what reason I cannot pretend to say, never appeared. This requires some future explanation; for, what I did read and say, is for the most part sup-

pressed; and what it was impossible for me to say, has been, through some error, published, as the original paper in my possession fully proves. *It appears then, that extermination is impossible.*' p. 16.

In this exquisite piece of ratiocination, Dr Rowley first of all asserts, that God Almighty cannot prevent the small-pox; he next alleges, that the House of Commons garbled his evidence; and from these curious premises, he draws this logical conclusion, that the extermination of the small-pox is impossible! We can safely assure our readers that the rest of his reasonings are constructed in the very same manner.

Dr Squirrel's book, however, is the most entertaining of the whole. We will venture to say, though we know it to be a bold assertion, that there never was any thing so ill-written, or so vulgar and absurd, produced before, by a person entitling himself a Doctor of Medicine. There is a certain nimbleness and agility about him, however, which keeps us in good humour, and he whisks about with such a self-satisfied springiness and activity, that it is really enlivening to look on him. In an unauthorised address to the King, he assures him that the practice of vaccination 'has undermined the health, and destroyed *more lives of the most innocent and infantile part of his Majesty's dominions* than can well be imagined.' He then proceeds to the display of his reasoning faculties in the following profound and eloquent paragraph.

'The cow-pox is unnatural to the human frame; and whatever operates contrary to the law of nature, can seldom boast of long inheritance; for nature detests an enemy as well as abhors a vacuum, and she endeavours with as strong efforts to destroy the one as to fill up the other. Providence never intended that the vaccine disease should affect the human race, else why had it not, before this time, visited the inhabitants of the globe? Notwithstanding this, the vaccine virus has been forced into the blood by the *manufacturing hand* of man, and supported, not by science or reason, but by conjecture and folly only, with a pretence of its exterminating the small-pox, from the face of the earth, and producing a much milder disease than the variolous inoculation; yet, after these bold and unqualified assertions, the natural infection has exerted its own right, and the small-pox, subsequent to vaccination, has made its appearance; for "nature will be nature still:" hence the puerility and the impropriety of such a conduct, viz. of introducing vaccination, with a boasted intention not only to supplant, but also to change and alter, and, in short, to pervert the established law of nature. The law of God prohibits the practice; the law of man, and the law of nature, loudly exclaim against it.' p. iii. iv.

After this, he complains bitterly of Parliament for voting a reward to Dr Jenner 'for introdueing the cow-pox virus into the vital fluid of the helpless infants of his Majesty's subjects;' and ends with supplicating that exalted personage 'to *prohibit* the

destructive practice of vaccine inoculation throughout his dominions.'

In the book itself, we have the old cry about horrid, filthy, *beastly* diseases; a positive assertion, that the grease in horses is the scrophula; a proposal to put all the infants that have been vaccinated through a course of mercury; and an earnest recommendation of a book called 'Maxims of Health,' and a medicine called 'Tonic Powders;' both compounded by, and sold for the benefit of, the said Dr Squirrel. He also threatens to prosecute Mr Moore for having written contemptuously of him; and very wittily recommends his powders to another antagonist, in the following smart sentence.

'They lessen irritability, correct and evacuate vitiated humours, and have a great tendency to cool and diminish the fury of the brain, by which means they will induce a conduct of reason and consistency; and, as they have a power to remove nervous symptoms, especially deception and cowardice, they come particularly well recommended to Aculeus.'

Such are the three graduated champions who have openly taken the field against the patrons of vaccination, and boldly challenged the rest of the medical world to defend that abominable practice against them. It would be injustice to Messrs Goldson and Birch to confound them with this triad of Doctors, whom they have submitted to follow in this contest. They both write, especially the former, like men of some sense and moderation; and we entertain good hopes of seeing them converted from their present heresy to the faith of the majority of their brethren. They neither of them join in the absurd clamours of the genuine antivaccinists; but, admitting the greater part of what the advocates for the new practice have asserted, they think it necessary to enlarge upon difficulties and discouragements to which we shall proceed to say something immediately. In the mean time, we may surely be permitted to observe, that from the specimens we have already seen of the talents and disposition of the antivaccinists, there would be some reason to wonder if it should turn out that they had discovered a truth which had escaped the researches of the rest of the medical world.

The controversy which has engendered all this virulence and absurdity, resolves itself, when strictly considered, into a few distinct points of inquiry. The practical question is, simply, Whether vaccination ought to be adopted in preference to inoculation with small-pox? and this question can only be decided, it is evident, by taking a comparative view of the advantages and disadvantages of vaccination and small-pox inoculation.

The great advantage of small-pox inoculation is, that it prevents certainly, or almost certainly, the recurrence of that dis-

order, and that it is, in general, infinitely milder than the natural form of the disease. Its disadvantages are, partly, that it is attended with considerable hazard, both to life and to the general constitution; and that, being an infectious disease, its partial adoption exposes greater numbers to the natural malady, than would otherwise fall in the way of it. In consequence of this circumstance, we have already seen that the total mortality by small-pox has increased nearly one fourth since the practice of inoculation became general.

The advantages of vaccination, according to the report of its advocates, are, 1. That the disease which it communicates is not in any degree infectious; 2. That it is as effectual a preventive of small-pox as the old inoculation; and, 3. That it produces a disease infinitely milder, and less hazardous, than arose from the former practice.

Of these three invaluable properties ascribed to cow-pox by its admirers, the *first* is unequivocally admitted by its opponents:—the disease is universally allowed not to be infectious. If there be any ground for ascribing the other properties to it, this alone must be admitted to give it an immense advantage. If it be but *nearly* as safe a disease as inoculated small-pox, or *nearly* as effectual a preventive, it must be incalculably preferable to it, with a view to the interests of society. By inoculating small-pox, the hazard of the community is inevitably increased; and as the disease is extremely infectious, it is evidently quite impossible to aim at its extirpation by the continuance of the practice. By vaccination, no malady can be propagated beyond the person of the patient; and if he be effectually withdrawn from the risk of small-pox contagion, it is evident that a prospect is held out, of finally extirpating that tremendous distemper altogether. In inoculation, we only hunt the wild tygers with the tame ones, and therefore never can exterminate the breed. In vaccination we run them down with other animals, and, with due exertions, may clear the country of them entirely.

The other two points, however, are the most material; and it is with regard to them chiefly that the debate has been all along maintained. The opposers of vaccination deny, positively, that it will effectually prevent the small-pox; and they allege that it is more dangerous to life, and more prejudicial to health, than the inoculation of small-pox. We shall consider these two positions as shortly as possible, in the order in which they have been mentioned.

The most determined enimies to vaccination do not pretend to deny that it prevents small-pox for a certain time, or to a certain degree. The unquestionable facts that have been accumulated by its admirers, have established that general point in the most

complete and satisfactory manner. Dr Woodville, alone, subjected near 4000 vaccinated patients to the small-pox inoculation, in the course of six months, and found that every one of them resisted the infection. That experiment has since been repeated, probably not less than a million of times, with the very same result. Cow-pox, therefore, is confessedly a preventive of small-pox; and the only question is, whether it be an infallible and a permanent preventive.

Upon this question, it is rather unfortunate for its opponents, that their little phalanx has been divided into a number of irreconcileable interests. Mr Goldson acknowledges that the natural or original cow-pox, received directly from the animal, does appear to afford a perfect security from small-pox; but that the operation of the inoculated disease is more precarious and uncertain. The rest of the antivaccinists, we believe, reject this distinction. Dr Moseley rather seems to admit, that inoculated cow-pox will render the constitution incapable of small-pox infection for a certain period; but that its virtue wears out in the course of time, and leaves the unsuspecting patient to a more dangerous attack of the malady. Dr Rowley, and we rather think Dr Squirrel, though we would not rashly pretend to have ascertained the meaning of that eloquent person, appear to deny it even this limited efficacy, and contend, that it affords no security against small-pox infection for any period whatsoever. Differing thus from each other in every essential particular, they agree in nothing but the vehemence with which they clamour against all who oppose themselves to their practical conclusions.

Mr Goldson's theory need not detain us very long. It exhibits, we think, as perverse an application of scepticism and credulity, as we have ever met with. There are perhaps one hundred authenticated cases of natural cow-pox, in which the patients have been found to resist variolous infection; and upon this scanty testimony, Mr Goldson implicitly believes that natural cow-pox is an infallible preventive of small-pox. There are more than one hundred thousand cases of inoculated cow-pox, in which the patients have equally resisted all subsequent infection; and yet he refuses to believe that the inoculated cow-pox can be depended upon as a preventive! This is almost as absurd, as it is in Mr Birch first to tell us that cow-pox is nothing but small-pox transmitted through a cow, and then to maintain that it is in the highest degree hazardous and improper to substitute the cow-pox inoculation for that of small-pox. Yet these are the two most rational antagonists of vaccination.

Dr Moseley's notion, however, we believe, has had more currency; and certain timid persons, we are afraid, have been induced to suspect, that the security afforded by vaccination is not

of a permanent nature, but is liable to be exhausted by time. It is certain, however, that there is nothing either in Dr Moseley's reasonings, or in the analogy of other physiological facts, to justify such an observation. Dr Moseley says, that there are many eruptive diseases which render the constitution for the time incapable of variolous infection, though they were never understood to impart any permanent security; and that 'cow-pox possesses no more specific power to resist the small-pox, than scald-head, or itch, or the yaws, or leprosy, or the *pustule maligne*, or the bites of venomous insects, or other eruptive and cutaneous disorders.'

Now, we admit the premises upon which this reasoning is founded; but we utterly deny the conclusion. We believe it to be perfectly well established, that certain violent cases of eruption will often indispose the body to receive the infection of small-pox, and enable it indeed for the time to resist every species of cutaneous infection; but it is most material to observe, that this effect is only produced during the actual presence and continuance of the eruptive distemper. It was never pretended by any body, not even by Dr Moseley, that a person who had been completely cured of scald-head, or itch, or leprosy, would resist the infection of small-pox, merely because he had been affected with these distempers some months or years before. If the cow-pox, therefore, have no other preventive virtue than these disorders, then it ought only to resist small-pox during the fifteen or twenty days that the vesicle continues; and the patient must we liable to contagion again in less than a month at the farthest. The fact, however, is indisputable, that out of the hundred thousand vaccinated patients who have resisted variolous infection, no one was ever put to the test of it, till after he had been for many months recovered of the cow-pox, and free from any symptom of distemper.

Dr Moseley's argument, therefore, is founded upon a false analogy; but the facts to which he alludes evidently furnish ground, when properly considered, for the very contrary conclusion. When infection is prevented by the active subsistence of a previous and sensible disease, we naturally ascribe our immunity to the disordered or suspended action of those organs by which infection is communicated; and reasonably infer, that, as soon as they are restored to their functions by the return of health, the infection will take place as before. There is here a visible change, to which we can impute the restoration of our susceptibility; or, rather, there is the removal of a visible obstacle which stood for a while in the way of it. But if, in consequence of any preceding operation, we find that we are enabled to resist contagion *in a state of perfect health*, and while all our organs appear to perform their offices with perfect vigour and regularity, we naturally infer that

this immunity will prove permanent, as we feel that it does not depend upon any extraordinary state of the system, or the action of any occasional cause that may afterwards be withdrawn. There is no event, in this case, to which we can look forward as likely to deprive us of this immunity, because it does not depend, as in the other, on an unnatural and accidental state of the body, which must speedily come to an end. The power of resisting small-pox is, in the one case, the symptom of a disease, and may be expected to disappear along with it;—in the other it is a constitutional property, which there is no reason to think will be altered by the mere lapse of time. A patient affected with itch, is prevented from taking small-pox, only as a man is prevented from seeing by the swelling of his eyelids; when the itch is cured, and the swelling subsides, he is infected, and sees as before. A vaccinated patient is prevented from taking small-pox, as a man is prevented from seeing by having the optic nerve destroyed,—he can never see again. In the one case, the enemy is resisted by our own superior force, and, of course, may be resisted always. In the other, he is only repelled by the accidental interference of strangers, and, of course, may overpower us as soon as they turn their backs.

It seems contrary, therefore, to all analogy, and all rules of reasoning, to suppose, *à priori*, that an immunity which is found to subsist for a certain time in the usual and healthful state of the system, will gradually and insensibly wear away without any apparent cause, or any sensible change to indicate its extinction; and the facts which bear at all upon the question, so far from suggesting or supporting such a supposition, seem, in our apprehension, completely to refute and discredit it. In the first place, the natural and inoculated small-pox,—the measles, and the hooping-cough,—which are the only other cases in which a preceding disease is found to bestow an immunity after its own cessation, are allowed to confer a permanent immunity, and not one that is gradually and silently destroyed by the lapse of time. In the second place, the matter seems experimentally settled, by the case of the *natural* cow-pox, in which the security has been found unimpaired and entire after the lapse of twenty, thirty, forty, and fifty years. Lastly, even if we were to admit the whole of the cases of small-pox occurring after vaccination, which the enemies of the practice have founded on, we could never hold that the preventive virtue naturally wore out in a certain time, because these cases are alleged to have occurred indiscriminately at all periods after vaccination which have yet been possible. In cases of continual exposure, they are said to have taken small-pox at all distances, from three months to seven

years after vaccination. It is impossible to suppose, therefore, that the preventive power of cow-pox wears out of the human frame in a certain period of time. If the cases are to be admitted at all, it would be more rational to suppose that it imparted a weak or imperfect power of resistance, which might be overcome by a powerful contagion.

But there are cases, it seems; and, whatever be the errors or inconsistencies of the theories proposed by those who bring them forward, the cases themselves must be decisive of the fate of vaccination. If small-pox have repeatedly occurred after it, it must be rash to trust to its security, and the system must eventually be abandoned. It is true, no doubt, that multitudes of such cases have been alleged; and that some of them have not been explained in a manner quite satisfactory to the sanguine admirers of vaccination; but our impression is, upon the whole, very decidedly, that by far the greater part of them are either cases in which there never was the genuine cow-pox at first, or cases in which there was not genuine small-pox at last; and that the remaining list of failures and disasters, if any remain, is neither more numerous nor more discouraging than may be supplied from the history of variolous inoculation. Of the individual cases themselves, the statement and verification of which fill many hundred pages of the controversial volumes before us, it cannot be expected that we should give any detailed history; but we are persuaded we shall do much more for the satisfaction and illumination of our readers, by laying before them the following admirable observations of Mr Moore upon the medical law of evidence. We make no apology for the length of the quotation, as we are persuaded that the writing and the reasoning of this passage must afford the highest gratification, even to those readers who are not particularly interested in its present application.

'The evidence that is requisite to prove or disprove any proposition in the science of medicine, is of a peculiar kind. It differs entirely from that species of proof which satisfies a court of law. Both direct and circumstantial evidence, which would leave no doubt in the breasts of judges and juries, have often not the slightest tendency to render a medical fact even probable. The declarations, and even the oaths of the most conscientious, disinterested, and able men, are all insufficient.

'The reason of this is, that few men, even those of considerable capacity, distinguish accurately between opinion and fact.

'When a man asserts he has been cured of a particular disease by a certain drug, he is apt to think he is declaring a fact which he knows to be true; whereas this assertion includes two opinions, in both of which he may be completely mistaken. The first is an opinion of his having had the disease specified; the second, that the medicine employ-

ed removed the disease. Most people are convinced that they are acquainted with the malady they are afflicted with; they consider it as a mere matter of fact: and when they are cured, they have as little doubt of the remedy that accomplished it. This belief is often strengthened by the confident declarations, and specious behaviour of the person who exhibits the remedy: and if the patient possesses gratitude, this also heightens the delusion. He is thus easily prevailed upon to swear positively, both to the disease and the remedy, as if they were plain facts obvious to the senses; whereas, both the one and the other are frequently beyond the reach of human knowledge.

'The cases adduced of diseases caused by vaccination, to the truth of which the parents will often take their oath, form no stronger presumption of these facts, than the affidavits that are daily sworn to of consumption, gout, or cancer being cured, prove that a specific for these distempers has been discovered. This species of unintentional perjury has been very common during the last century in every part of Europe: and the more improbable the fact is, the more numerous are the affidavits, and the more respectable the signatures. Clergymen, judges, and peers, are daily swearing, that they have been cured of incurable diseases: but the meanest apothecary smiles with contempt, when he reads their splendid testimonials.

'If the difficulty of ascertaining the proper dose of the best medicines was fully known, it would prevent any man of sense signing a paper to induce others to buy a nostrum. One man, for example, can take eight or ten grains of calomel, whereas another, with the same complaint, cannot endure more than half a grain. Hence it appears that one man requires twenty times the dose of another: how then can this medicine be graduated for public sale? The most credulous bishop, or even the most foolish gentleman, who exposes his name on a quack bill, would laugh at a shoemaker who pretended that he could make shoes to fit all feet.

'The character of the person for whose advantage these affidavits are taken, is little understood by the public. Reflect for a moment what kind of man that must be, who is base enough to conceal a medicine endowed with the power of curing cancer, gout, consumption, or any of the deplorable distempers that afflict mankind. If such a discovery were actually made, and kept secret, the discoverer must be both a villain, for concealing what would save thousands from misery and death; and a fool,—because, by this conduct, he lives despised, and probably poor; whereas, the disclosure of such a secret would infallibly procure him honours and riches.

'It is not with medicine alone that the cunning empiric performs his cures. He sometimes operates more successfully by an unusual incomprehensible legerdemain trick. Mesmer convinced thousands of the nobility, and even some men of science in Paris, that he could cure diseases without either medicine or change of diet. He placed his patients round a box full of broken glass, and made them pinch each other's thumbs, while he waved a rod of steel in the air. By

employing a mysterious jargon, he even made many believe that they were capable of doing the same; and they paid him large sums for being taught this valuable art. De Mainaduc and Miss Prescott have improved upon this plan. By moving their hands, they could extract any disease out of a sick man's body; swallow it themselves, and then puff it into the air. Distance did not hinder them from operating with success. They could cure a man in India. And, though the knave De Mainaduc, with this wonderful power, died young, the art continues to be practised and paid for magnificently, and the cures are attested by coronets and mitres.

'After these instances, it is superfluous to speak of Perkins, though he had a better trick than either. The other quacks commonly took the trouble of seeing their patients, hearing their cases, and talking to them. Perkins saved himself all this embarrassment. He soldered bits of brass and iron together; which, he said, could cure gout, rheumatism, sprains, inflammations, and twenty other diseases, and sold them for six guineas a pair. He quickly printed, with most respectable attestations, many more cures than are now published of the failure of Vaccination. He established a Perkinian Society of gentlemen of consideration, who zealously, to this day, extol the fame of the tractors. Several worthy clergymen purchased tractors, and most patiently and charitably applied them to their poor parishioners. For a time they performed surprising cures, and thought they rescued the afflicted from the extortion of the apothecary. These miracles are now at an end; the gout and rheumatism rage as formerly; but Perkins has made his fortune.

'It thus appears that lists of cases, however certified, rather deceive, than enlighten. The regular physician who adopts this method of proving a medical fact, takes the very path he ought most sedulously to shun. Yet if any one should attempt, by investigating each particular case, to refute it; he would soon discover the impossibility of succeeding. I have been requested, on various occasions, to make such researches, and generally found that the patients were completely convinced of the truth of the attestation; whether the remedy was physic, magnetism, or a tractor. In short, they were ready to take the most solemn oath to what was quite impossible to be true.

'Not aware of this, some of Dr Jenner's friends first investigated the cases of pretended failure of Vaccination. In some instances, they discovered, that what had been called the Small-pox, was, in fact, the Chicken-pox; in others, a rash; and in some bug-bites. Where the Small-pox had occurred, the patient had either never been vaccinated at all, or the spurious inflammation alone had taken place.

'But as soon as one case was refuted, another was rumoured. The investigation sometimes occasioned a dispute with the medical attendant. For if any mistake was committed by him, either in vaccinating, or in the opinion he had given of the eruption, he found his

reputation at stake. This occasioned warm altercations; both parties obstinately persisted in being in the right, and neither could be confuted nor silenced: for the question does not admit of demonstration.' p. 29—36.

Of the truth of these positions we are so perfectly convinced, that, even if our limits admitted of it, we should decline laying before our readers the particulars of any of these disputed cases. It is necessary, however, to explain a little more particularly the grounds of our scepticism as to facts so strongly asserted.

The first position is, that in all, or almost all the cases, where small-pox have really occurred after an alleged vaccination, the patient really never had the cox-pox, the inoculation having miscarried, by accident or inattention. The total number of such cases, we believe, is considerably under an hundred out of little less than half a million of vaccinated subjects; and, when the following particulars are attended to, we are persuaded that they will appear infinitely fewer than might have been reckoned on, from the novelty, and, in some respects, the nicety, of the practice. In the first place, it is well known that, within a short time after the promulgation of the discovery, a multitude of individuals, of all sexes and professions, (Dr Willan says not less than 10,000), many of whom had never seen the disorder in their lives, took upon them to practise the inoculation in all parts of the kingdom. That some mistakes should be committed by such practitioners, even in a matter of the utmost simplicity, could not excite wonder; but the truth is, that the operation was a matter of considerable nicety, and not perfectly understood, even by medical practitioners, till after the publication of Dr Jenner's full directions and engravings in 1802. The causes of mistake were various. 1st, The matter was sometimes taken from a spurious sore, in the first instance, which, though it raised a vesicle, and excited inflammation in the inoculated patient, could never, of course, communicate the genuine disease. 2d, It was still oftener taken from the true sore at too late a stage of its progress; in which case, though it seldom failed to produce a very active inflammation, it could never give the true cow-pox. 3d, The matter, though taken in proper time, was sometimes decomposed or corrupted, by being too long kept, or exposed to air, or heat or cold, or diluted in too much fluid. 4th, When all these circumstances were attended to, it sometimes happened that, owing to the existence of eruptive fever, or violent cutaneous disorders, the patient did not receive the full constitutional affection, nor indicate the decided symptoms of regular vaccination. Lastly, It was some time before even the regular practitioners were so perfectly acquainted with those characteristic and decided appearances, as to be able to say with certainty, whether the vaccination

had actually taken effect or not. The circulation of Dr Jenner's descriptions and engravings went far to remove this uncertainty; but it was not, perhaps, completely obviated till the publication of Dr Willan's excellent observations, in which he has described all the various forms and appearances of the spurious, as well as the true vesicle, in a way which puts it in the power of any attentive reader, in the least degree acquainted with the subject, to attain perfect assurance in every case that can occur to him.

These observations apply chiefly to the earlier periods of the practice; and it is very remarkable, accordingly, that by far the greater number of instances of alleged failure occur before the year 1802, and that they occur infinitely oftener in the practice of those inexperienced persons, whom zeal had induced to usurp the functions of a profession to which they had not been educated, than of the regular practitioner, who had vaccinated to a much greater extent. No one instance of failure has occurred in the practice of Dr Jenner himself; and his relative, Mr G. Jenner, publicly states, that he has also inoculated 5000 persons, without a single miscarriage. We agree entirely with Dr Willan, in earnestly dissuading any person from practising vaccination, who has not been carefully instructed in all the necessary precautions, and has not learned, by long observation, to recognize with certainty the genuine from the spurious infection. It would be much better, indeed, that the operation should in all cases be entrusted to a regular practitioner, except where there is a difficulty in obtaining his assistance in a situation of urgency.

The circumstances that have now been mentioned would account, we conceive, for a considerable number of alleged failures, without the necessity of supposing that vaccination itself is, in its completest form, a precarious and insecure preventive of infection. By far the greater number of those alleged failures, however, are cases in which some other distemper has been mistaken or misrepresented for small-pox. The error that has been committed here is of two kinds. In the first place, by mistaking eruptions altogether of a different description, such as chicken-pox, rash, swine-pox, and even itch, and the bites of insects, for small-pox; and in the second place, by representing, as genuine and formidable small-pox, that secondary variolous affection, to which it is perfectly well known that many persons are subject, when exposed to contagion, who have formerly had the disease in the most unequivocal manner.

The first requires no explanation. A multitude of such cases have been detected and exposed by the advocates for vaccination; and a multitude have been abandoned by those who first brought them forward, as having been originally stated upon inaccurate information. The second point is of more consequence,

as it has served to bring into general notice a fact in the history of the small-pox, which the patrons of the old inoculation were much disposed to keep out of observation.

The general rule certainly is, that no person has the disease twice; and in a certain sense, the exceptions to it must be allowed to be very few indeed; but it is an established fact, that very many persons who have gone through the disease, either in the natural way, or by inoculation, are liable, when inoculated a second time, or exposed to powerful contagion, to a secondary and mitigated attack of fever and eruptions, in the course of which pustules are formed, from which the genuine small-pox may be inoculated. Nurses who sleep with children in the small-pox are familiarly known to be liable to these affections; and that, many times in the course of their lives. And a multitude of indisputable cases are cited in the volumes before us, of similar effects being produced by a second inoculation for small-pox, after the first has taken full effect; * or even after a very severe and dangerous attack of the natural disorder. In all these cases, however, the symptoms are decidedly milder than in the proper original small-pox; the fever is of shorter duration, and the pustules are smaller, and dry up and fall off much earlier than in the genuine form of the disease. There is no instance in which it has been followed by fatal or serious consequences. Now, it is apparent, even upon the face of the statements made by the anti-vaccinists themselves, that almost all the alleged cases of small-pox following vaccination were cases of this description. The fever was always shorter than usual; the pustules were smaller, and usually fewer in number; and, almost in every case without exception, they were found to dry up and disappear much sooner, than in the true and original disorder. It is the opinion of Dr Willan, therefore, (p. 70, 71), and it seems to be confirmed by the import of the whole evidence, that the vaccine inoculation bestows as great security at least as that for the small-pox; and has even this advantage over it, that imperfect vaccination has always a certain effect in modifying the subsequent attack of small-pox; whereas, an imperfect inoculation for small-pox is admitted to have no subsequent effect whatsoever, (p. 76.) It seems also to be ascertained, that the vaccine inoculation, even though not adopted till after the contagion of small-pox has been received, will modify and control the original distemper to such a degree, as to deprive it of all alarming malignity. It was for some time

* See Ring's answer to Moseley, and authorities cited, p. 194, &c. —Moore's reply, p. 55, 56, &c.—Willan, p. 65–71, &c.—Birch's Serious Reasons, p. 45.

supposed, that a sort of neutral or hybrid disease, was generated by this coincidence of the two separate ones; but the experiments detailed by Dr Willan (p. 7.) seem to prove that each of them runs a distinct course, although modified and restrained as to the violence of the symptoms, by the presence of the other.

With these cautions and observations, we may safely leave the reader to peruse all the cases which are detailed by the enemies of vaccination, in evidence of its inefficiency as a preventive of small-pox. Of the temper and judgment with which they are selected and narrated, some conjecture may be formed from the specimens which have been already given of their writing; but there is one sentence of Dr Rowley's which seems to render any further observation unnecessary, and to make it superfluous to hunt through the laborious and persevering detection of the vaccinists. This learned Doctor, who has collected many more cases of failure than all his brethren put together, disposes of the whole controversy in this peremptory manner.

'Indeed, no other questions are admissible in vaccination, than, Have the parties been *inoculated* for the cow-pox? Have they been vaccinated? *Yes.* Have they had the small-pox afterwards? *Yes.* As to *how, when, where, whether the cow-pox took, was genuine, or spurious, or any arguments, however specious,* as pretexts for doubt or failure, they are evasive and irrelative to the question. They may confound fools, but not heighten the credit of vaccination.' p. 34.

After such a declaration, it certainly cannot be worth while to refute Dr Rowley's cases. It would be little less absurd to tell a Jury, in a trial for murder, that the only question was, whether a pistol had been fired or not, and that it was of no consequence to inquire, whether it was loaded with ball, or whether the sufferer had died by a pistol shot.

The antivaccinists themselves seem to admit, that by such *irrelative* and *evasive* inquiries, more than nine-tenths of their cases of failure may be explained in a satisfactory manner. But still, they urge, there are a few remaining, which have been admitted by the vaccinators themselves to have exhibited the decisive symptoms of genuine cow-pox, followed by genuine small-pox. The admission to which these gentlemen allude, is contained in the first of the following paragraphs of a report given in by the Medical Council of the Jennerian Society, and signed by upwards of fifty of the most eminent practitioners in London. That Council, upon considering the Report of a Committee, declare, that it appears to them, among other things,

'That it is admitted by the Committee, that a few cases have been brought before them, of persons having the small-pox, who had *apparently* passed through the cow-pox in a regular way.

'That cases, supported by evidence equally strong, have been also brought before them, of persons who, after having once regularly passed through the small-pox, either by inoculation or natural infection, have had that disease a second time.

'That in many cases, in which the small-pox has occurred a second time, after inoculation or the natural disease, such recurrence has been particularly severe, and often fatal; whereas, when it has appeared to occur after vaccination, the disease has generally been so mild, as to lose some of its characteristic marks, and even sometimes to render its existence doubtful.'

Now, there are two ways of viewing this, equally reconcileable with the facts of the case, and with the report of the Society. The one is, to hold that though those few persons *appeared* to have gone through the cow-pox regularly, yet that, in reality, there had been something imperfect in the vaccination; and that, if the means of more exact scrutiny had been afforded, such an imperfection might have been made manifest. This is the decided opinion of Mr Moore, who says, 'he can more easily believe that an able physician should commit a mistake (or disguise one) than that such an incongruity should occur;' and of Dr Willan, who, after stating the result of his own most careful observation to be uniformly in favour of the claims of vaccination, says, 'If such failures do ever occur, they must occur in a very small proportion; and I am convinced that the subjects of them will not be found liable to take small-pox in the same manner and form as before vaccination.' The other view of the question is, that these failures do really occur, but in so very small a proportion, as to furnish no objection whatsoever against the practice of vaccination. That practice must maintain its ground triumphantly, if it can be shown to be *as effectual* a preventive of small-pox as the old inoculation. Now, we think it has been demonstrated, beyond the possibility of contradiction, that the number of authenticated cases of small-pox after the old inoculation, and even after a former attack of the natural disease, are more numerous in proportion, than those that are alleged, with any probability, of such an occurrence after complete vaccination.

It has become a fashion among the opposers of vaccination to assert, without ceremony, and in the most positive manner, that no person ever had the small-pox twice,—and from this they conclude, without any more ado, that, if they can show one instance of its occurrence after vaccination, the question is decided in favour of the old method. We have heard the same confident assertion made in conversation; and we have therefore been at some pains to look into the evidence of the opposite proposition, which appears to us as clearly and completely established as any fact in the history of diseases. We have no longer room to insert even

an abstract of those cases; but we shall refer our readers to the places where they may be found, after stating, very shortly, the two earliest that appear on record.

The first occurred in the case of a child of Dr Croft. 'He was inoculated by Dr Steigerthal, physician to King George the First. Dr Deering was an eyewitness of the operation; and assures us, great care was taken in the choice of matter. He had the small-pox of the confluent kind, and in a severe manner, in consequence of this inoculation, and yet had it again *very full*, in the natural way, twelve months after. This, says Dr Woodville, in his History of Inoculation, p. 217, is *a striking fact, which has never been contradicted.*' A second case was published about the same time by Dr Pierce Dod: 'It occurred in a son of Mr Richards, member of parliament for Bridport, who was inoculated for the small-pox. About sixty pustules came out; which maturated, scabbed, and went off in the usual manner. Two years afterwards he had the disease again, more severely, in the natural way. This case was communicated to Dr Dod by Dr Brodrepp, a learned and experienced physician, the grandfather of the child, who attended him on both occasions,' and was much canvassed by the controversialists of that day. A third very striking case is mentioned by Mr Ring in his answer to Dr Moseley (p. 209. &c.), of a person who was much seamed and scarred by natural small-pox in his youth, who, after he was a grandfather, died of a second attack of the confluent disorder. A fourth case is mentioned at p. 211. of the same work, of the very same description, and with the same issue; a fifth is detailed at p. 213.; a sixth at p. 215.; and a seventh at p. 280.: Three others are given from a foreign publication at p. 199. Several similar facts are detailed in Mr Ring's large treatise, p. 59. 86. 946, &c.; and the case of the Earl of Westmeath's child has lately been laid before the public in a way that precludes all doubts as to its authenticity.

On the whole, we think there are not fewer than twenty distinct cases of small-pox occurring a second time in the same subject, each of them authenticated far more completely than any one that has been cited by the adversaries of vaccination. We are persuaded, indeed, that we shall be supported by every impartial person who makes himself master of the whole evidence, in saying, that there are not so many as ten cases of small-pox, after perfect vaccination, proved in such a way as to be entitled to any sort of attention. Now, the Medical Council, consisting of almost all the great practitioners in London, have reported, that 'nearly as many persons have been already vaccinated in this kingdom, as were ever inoculated for the small-pox, since the first introduction of that practice;' so that, if the two cases were exactly upon a foot-

ing, the risk of failure seems to be at least twice as great in the small-pox inoculation as in that for cow-pox.

But the cases are not by any means on a footing; and, when rightly considered, the advantage will be found to be still more decidedly on the side of vaccination. In the first place, an infinitely greater proportion of vaccinated patients have been intentionally subjected to the most violent forms of variolous infection, than of those who had been inoculated for small-pox. For fifty years back, the confidence of the country, in the efficacy of inoculation, has been so firmly established, that it was seldom put to the test, either by a second inoculation, or by voluntary exposure to infection. The anxiety, and the contest about vaccination, had the effect of making it almost a regular practice to inoculate again with variolous matter, or to put the patient in some other way to the proof. It is not too much, perhaps, to say, that one-fifth of the whole number vaccinated has been subjected to this severe ordeal; and that not more than one in five hundred of inoculated patients have undergone a similar probation. If the two operations, therefore, were only of equal virtue, the cases of failure should be an hundred times more numerous among the vaccinated than the inoculated patients. In point of fact, they are absolutely fewer. It deserves also to be considered, that cases of failure in inoculated small-pox must now be picked up, in a great measure, from old books or old people, and that it is fair to presume that a much greater number than can now be authenticated have occurred, and been forgotten in the course of the last seventy years; whereas, all the instances of failure in vaccination having happened within these six years; and while the keen eyes of so many disputants were fixed on the issue, it may be concluded, that few or none have been lost to the public, and that we are now completely aware of the full extent of the calamity.

In whatever way this part of the question be considered, therefore, we conceive it to be clearly made out, that vaccination, if it do not absolutely and certainly secure the patient from the contagion of small-pox, gives him a security, at least as effectual as could be given by the old practice of inoculation. We are conscientiously persuaded, that, to this extent, it may be relied on with the most implicit confidence.

The only other point which remains to be considered is, whether vaccination communicates as safe and mild a disease as inoculation? Upon this, however, it would be a mere waste of words to enlarge: the public knows perfectly, by experience, that the cow-pox is incomparably a milder disease than the inoculated small-pox; and there is certainly no one instance in which the fever attending it has risen to a fatal, or even to an

alarming height. As to the trash that has been written to prove that it has given birth to a multitude of new and dreadful cutaneous distempers; as there is not a shadow of evidence to connect these appearances with the preceding vaccination, the only answer that can be mede to it is, that it was never pretended that the cow-pox would insure the patient, for all the rest of his life, from scrophula or itch, or tinea, or leprosy, or syphilis. The whole proof that is offered, in any of the alleged cases, is, that a person who had been vaccinated, was afterwards affected by these disorders, sometimes at the distance of years.

It was not necessary, perhaps, to make any other answer to assertions so improbable and intemperate: But Dr Willan has condescended to answer them; and has set this part of the question, it appears to us, finally to rest. Dr Willan, it is well known, is the oracle of the metropolis in all cutaneous disorders, and has more practice in that department than all the rest of his brethren put together. Now, he says, in the first place, that after a careful examination of all the cases alluded to, *no new disorders* have been introduced into the nosology since the discovery of vaccination; and that the old cutaneous complaints of the metropolis have not become either more virulent or more general. As a proof of this, he exhibits a table (p. 82.) of the number of cases of cutaneous eruption in the Public Dispensary, from 1796 to 1805; the result of which is, that their proportion to other diseases was rather greater before Dr Jenner's discovery, than in the sixth and seventh years of vaccination. In the next place, he exhibits a statement, from the senior surgeon of the Gloucester Infirmary, in which cow-pox has been familiar for the last fifty years, which purports, 1st, That there is not a more healthy race of beings, or one more free from cutaneous complaints, than the milkers at dairies, who are constantly exposed to cow-pox; and, 2d, that though many hundred patients have been under his charge for cow-pox in the last fifty years, *not one* has complained, in all that time, of any cutaneous affection as its consequence. In the last place, Dr Willan gives it as his decided opinion, that the vaccine inoculation is much less apt to produce inflammation and suppuration of the glands than inoculated small-pox; and that he has never known an instance of scrophula that could be fairly referred to it.

There are, no doubt, one or two unfortunate cases, and we believe no more, in which the wound in the arm has degenerated into a dangerous ulcer. This may be owing to the incautious use of a rusty lancet, or of one charged with matter which had run into putridity; or it may be owing to a singular and unaccountable irritability of constitution, akin to that which Dr Willan says he has known produce the most violent disorders from the appli-

cation of a blister, or give rise to incurable ulcerations from the bite of a leech. It is needless to say that similar disasters may arise from common inoculation—they may arise from the scratch of a pin.

Although the arguments in favour of vaccination appear, when impartially considered, to be thus evidently triumphant, we are well aware, from the recollection of our own sentiments on the occasion, that some people, who have not leisure to enter into the merits of the controversy, may be staggered by the simple and palpable fact, that a certain number of persons, of some education and acuteness, have set themselves so outrageously against it, and may think it safer to resist novelties, as to the merit of which there is a difference of opinion, and adhere to the good old way, which every body so lately concurred in recommending. To such persons, it may be of some use to state, that the good old way of inoculation of small-pox met, in its day, with an opposition not less virulent and persevering, than cow-pox seems destined to encounter; and was assailed with as much bad language, and nearly as much bad argument, as is now poured out against vaccination. Dr Wagstaffe, in 1721, published a variety of pamphlets against it, in which he maintains, with great vehemence, that it does not prevent the small-pox in future; that it produces a variety of shocking distempers, itch, ulcers, boils, hectic, *caries*, &c.; that it often produces an unfavourable confluent small-pox; and, in general, that it is to the full as fatal as the natural disorder. The same positions were maintained in a great variety of eloquent publications by Dr Hillary, and Messrs Howgrave, Sparham, and Massey. But the most magnificent and imposing piece of composition that has been preserved upon this side of the question, is a sermon preached by the Reverend Edmond Massey, 'upon the dangerous and sinful practice of inoculation,' in 1722. In this performance, the reverend person maintains, that Job's distemper was the confluent small-pox, and that he had been inoculated by the Devil: he then asserts, that diseases are sent by Providence for the punishment of our sins; and that this attempt to prevent them, is 'a diabolical operation.' He comforts himself, however, by reflecting, that its pretensions, in this way, are utterly vain and groundless;—he says they are mere 'forgers of lies,' who pretend that it will prevent the small-pox; enlarges upon the miseries and evils that inoculation threatens to introduce; and hopes that a time will come, when those preparers of poison, and spreaders of infection, will have a stigma fixed on them, and no longer be permitted to mingle with other professional men; which, he says, indeed, is as presumptuous in them as it was in the Devil to mingle with the sons of God.

These, and similar expressions, which abound in the writings of that day, will go far, we fear, to deprive Drs Moseley and Squirrel of any claim to originality in the style of eloquence they have exerted themselves so meritoriously to revive. We beg them, however, to believe, that it was by no means for this invidious purpose that we have referred to their prototypes, but merely with a view to set the minds of those readers at rest, who might be inclined to doubt, whether men of education could possibly be so positive and so angry in support of what was certainly wrong. Drs Wagstaffe and Hillary, with their faithful squires and followers, have been effectually confuted by the experience of little less than a century; and their forgotten cavils and rhapsodies now excite no other emotions in the reader, than those mild sensations of contempt and wonder with which the next generation will look on the lucubrations of Squirrel and Moseley, if any accident should draw them from the shelter of that oblivion to which they are rapidly descending.

We will not add to the length of this article by any general observations on the importance of the subject on which it is employed. There is only one point of practical importance which we have omitted to consider; and that is, the propriety of continuing the practice of putting the efficacy of vaccination to the test, by subjecting the patient afterwards to repeated variolous inoculation. Most of the violent admirers of the new practice oppose this as unnecessary; and the instances of troublesome, and even dangerous affections, resulting from such inoculation, although no genuine small-pox be produced, certainly afford an argument of some weight against it. At the same time, we believe this risk to be so small, that, in order to allay the anxiety of parents, we do not see any great harm in continuing the practice till that anxiety shall disappear from the increasing reliance on vaccination, or until the extinction of small-pox shall render it impossible to find matter for the inoculation. It is a point still less doubtful, however, that it would be advisable to institute a very strict examination into the cases of all persons vaccinated before 1802, and to repeat the operation in every case that appears in the slightest degree doubtful; ascertaining, at the same time, the fact of the constitutional affection, by Mr Bryce's ingenious test of inoculating one arm from the vesicles formed on the other, and judging of the state of the system by the sudden maturation of the second incision. If the first vesicle be quite regular, we are inclined to think, that the success of this experiment will afford the most perfect assurance of the constitutional affection having been completely produced.

ART. IV. *Journal des Mines*, publié par L'Agence des Mines de la République. Tom. II.—XV. inclus. 8vo. Paris. An 3.

WE endeavoured to explain, in a former Number, the general plan and character of these Journals; and shall now proceed with our rapid examination of a few of the most prominent articles.

The abstract of *Duhamel*'s communication *on coal*, presents, as we formerly intimated, few original or important views to the practical observer; yet, as a geological and economical paper, and, especially, as connected with other essays on the same subject, it possesses sufficient merit to excite our regret, that it is published in an abridged form. The petty jealousy which long subsisted among the coal proprietors in this country, has deprived the world of much valuable information relative to the native states of this combustible substance, and to the most eligible modes of working it. Had regular registers of all proceedings and observations been kept at every coal-field, and rendered easily accessible to those whom views of science or of interest invited to accumulate facts, and institute comparisons, it is extremely probable, that much superfluous and wasteful labour might have been spared, much fuel economized, new stores discovered, and several curious and important geological positions accurately established. We have learned, with pleasure, that, in some of the southern districts of our island, a more liberal spirit of inquiry begins to prevail, and that not only the bearings, thickness, quality, &c. of each stratum, which is disclosed in the course of working, are distinctly recorded, but that samples of their substance are preserved, for the inspection of the interested and the curious. On a subject of such immediate concern to individual comfort, and to the maintenance and extension of the manufacturing community, we receive with gratitude every species of information which proceeds from the pen of a judicious and intelligent observer. Such M. Duhamel seems to be; and we have no hesitation in recommending the perusal of his Memoir (in the enlarged form, if it can be procured), to all who direct their investigations to this department of mineralogy. At the same time, we must beg leave to remark, that a more intimate acquaintance with the few printed works, which exist on the subject, and a more ample range of practical observation, would have greatly enhanced the value of his treatise. His synoptical view of the coal strata in different parts of Europe is peculiarly defective, both in regard of localities, and of the number of workable seams which have been discovered at each. Edinburgh and

Carron, for example, to the former of which, two veins, and to the latter three, are assigned, are the only places mentioned in Scotland; and Newcastle, Whitehaven, and *Worsleg*, (no doubt Worsley), make up the English catalogue. Marienburg in Misnia, Rotenbach in Silesia, Bilin in Bohemia, where there is one seam of fifteen feet in thickness, and another which is at least sixty feet, with the abundant magazines which have been unfolded in the mountains of Upper Styria, are unaccountably omitted. On comparing even his French list with Lefebvre's enumeration, (which we have to notice in the sequel), the reader will perceive similar instances of omission. The vague expression, too, of *several seams*, when the exact number might be stated, indicates a disregard of precision, which should never be tolerated in the construction of tabular abstracts. The plan of M. Duhamel's chart is, however, sufficiently commendable; for it is intended to exhibit, at a glance, the names of the known mines, their geographical situation, their stratiform or amorphous distribution, their direction and inclination, the nature of the roof, pavement, and of the interposed and adjacent mineral substances, with appropriate observations. We trust, therefore, that the day is not distant, when the author, or some properly qualified person, will bestow on it the requisite extension and correction.

As the existence of coal in limestone had been long denied by some eminent naturalists, the learned author of this Memoir, very properly, devotes a few pages to the consideration of this question. Buffon had formerly noticed the mixture of calcareous matters in the coal of Alais, which is often burned for the express purpose of obtaining lime. Instances of the fact are likewise enumerated by Saussure; but the most apposite examples have been adduced by M. Bertrand of Marseilles.

'The coal strata of Provence,' says this ingenious mineralogist, 'are situated at the foot of the highest mountains of Lower Provence. Running along a soil of a whitish red, they traverse a pretty uniform range of hills, whose internal structure presents nothing remarkable to the ordinary observer. To the first layer of earth, succeeds a bed of stone, more or less thick, and followed by a layer of earth, of the same nature as the first, which, in turn, reposes on new beds of hard stone. This series continues to a variable depth, when the earthy layers disappear, to make place for those of coal, which are always included between beds of limestone.' The latter, it may be of consequence to remark, are seldom of any considerable thickness, have a foliated texture, and, in proportion as they approach to the coal, exchange their dingy white for a blue of a lighter or deeper shade, and thus frequently assume a schistose aspect, though they are unquestionably calca-

reous, and abound in marine and river shells. This disposition of the coal strata of Provence, extends over a district of more than twenty leagues in length; but the thickness of the seams seldom exceeds two or three feet. We may add, that a calcareous stratum, of six or seven feet in thickness, forms the roof of the caking coal that is worked at Blackburn, in West Lothian; and that at Carlops and Spittlehaugh, in the county of Peebles, the coal which lies immediately under the lime-quarry, is employed in burning the stone.

The occasional interposition of layers of peat-earth between those of coal, is another curious circumstance connected with the geology of the Provençal district, which has furnished M. Bertrand with his proofs. In the present abstract, however, this appearance is mentioned in such general terms, as to leave it somewhat doubtful whether the alleged peat may not more properly be classed with vitriolic or bituminous earth, or even, perhaps, with fossil wood.

We are amused with our author's visible terror and anxiety, lest coal should be found incumbent on basalt, or even come into contact with it. When compelled to admit the occurrence of basalt above coal, he is still careful to insert a thin and saving clause of schistus; and, as we never explored the coal-fields of Auvergne and the Vivarais, we dare not venture to break a lance with him on such slippery and precarious ground. We know, however, that in Scotland, nature sometimes dispenses with this slim partition. 'Strata of basaltine rocks,' says Williams, in his *Natural History of the Mineral Kingdom*, 'are very common in many coal-fields in Scotland. There are several thick beds of this stone betwixt the different seams of coal at Borrowstounness; and one of them is the immediate roof of a seam of coal in that ground; and there is a thin seam of coal below a bed of beautiful columnar basaltes, at Hillhouse lime-quarry, a mile south of Linlithgow. In the Bathgate hills, south of Linlithgow, there are several strata of coal, and several strata of basaltes blended together, *stratum super stratum.*'

M. Duhamel has adopted, and, in our opinion, with too little reserve, the commonly received doctrine, that the strata which accompany coal, or which alternate with it, are composed of the same materials as the adjacent primitive mountains, and that, consequently, they owe their formation to the abrasion or decomposition of the latter. The exceptions to this rule, however, are so numerous, that we may be allowed to question its foundation in fact. Many of the coal strata in France are, no doubt, encompassed by primitive rocks; but most of those of England and Flanders are insulated in secondary soil, and have their intermediate

spaces occupied by beds of sandstone and schistus, sometimes of great extent and thickness, though very remote from any masses which can be supposed to have contributed to their composition. Besides, the homogeneous complexion of the concomitant strata, seems rather to have resulted from some immediate chemical operation, than from the gradual subsidence of preexisting materials.

In his account of the different derangements and dislocations incident to coal strata, the writer of this Memoir is much less minute and explicit than we could desire; but the deficiency is well compensated in a subsequent paper, transmitted by *Struve* and *Berthout*, who lay down some skilful directions for the treatment of such unwelcome interruptions. We only regret, that, without the assistance of the plates, we cannot render their instructions very intelligible, and must therefore be contented with a simple reference to the original. Some excellent precautions against the fatal effects of the fire and choak-damps in coal mines, are suggested by Macquart and Baillet; and an ingenious contrivance is explained by Humboldt, for preserving the lives of the workmen, and the light of lamps, in subterraneous passages infected with deleterious vapours. On these particulars, however, we cannot afford to dilate; and the papers to which we allude really are not susceptible of abridgement.

We shall pass, then, to *Lefebvre's Report of the different Coal-Mines in France*, which we regard as no unimportant supplement to the preceding articles. From this review, which occupies nearly two Numbers, and which seems to be compiled industriously from authentic documents, we are enabled to infer, that coal is actually worked in 47 departments of the *empire;* that indications of its occurrence have been traced in 16 others; that the yearly produce from the mines of 34 departments, has been fairly estimated at 77,600,000 quintals; that if 3,880,000 be allowed for the 13 undetermined departments, the total of quintals will be 81,700,000, which, if converted into money on the coal-grounds, would fetch 32,280,000 francs; and that more than 60,000 individuals earn their subsistence at the coaleries, independently of those who are engaged in the carriage and exportation of the commodity.

Before we take leave of this useful class of writers, we shall just hint at the propriety of digesting, into a regular treatise, all the important facts and observations which have been published on the subject of coal, which at present lye scattered in the volumes of Jars, Gennetè, Gensanne, Morand, Williams, &c. and in various periodical and scientific communications. Such a compilation, if judiciously and scientifically arranged, would amply reward the trouble of some intelligent chemist and mineralogist. At all

events, we would invite some of our humane and benevolent Societies to prepare directions for escaping the fatal effects of noxious vapours, and to distribute such salutary instruction among those who are doomed to toil and danger in procuring the comfort of fuel to others.

Among the contributions of the celebrated *Dolomieu*, we remark a long and interesting account of *the Manganese Mine at Romanèche.* We can only note, in passing, that it is distinguished by the following particulars. 1. It contains a very considerable quantity of sulphat of barytes; about one sixth of the mass, not accidentally mixed, but in a state of chemical combination. 2. The total absence of iron from its composition is the more extraordinary, because the affinity between these two substances is so great, that few iron ores are destitute of manganese; and analysis has not hitherto revealed another instance of manganese devoid of iron. 3. The hardness of those portions of the ore which contain the least quantity of oxygen, and are, consequently, denominated *oxydulated*, is so considerable, that they not only scratch glass, but even rock-crystal; and give bright sparks, when struck with steel. 4. When plunged for a minute in water, the oxidulated variety absorbs a certain quantity of the liquid, and, when taken out of it, emits a very strong argillaceous odour, though no clay has been detected in its composition. 5. In the same circumstances, the *oxidated* rapidly absorbs a great quantity of water, with a hissing noise, and disengagement of air. ' The odour which it then exhales is very strong; but, though approaching to the argillaceous, it produces a different sensation, which it is very difficult to describe.'

The same ingenious and accurate observer has communicated some important details concerning *the formation of leucite* or *vesuvian.* Among other arguments for the preexistence of this substance in the basis of the lava, he notices its frequent adherence to volcanic ejections which had not experienced the action of heat. He likewise contends, that the temperature of liquified lava is by no means sufficiently intense to reduce *leucite* to fusion, any more than hornblend, feldspar, mica, pyroxene, and other crystallized substances which occur in the ignited masses. This temperature, however, is probably subject to great varieties; and, with respect to the mineral in question, the presence of potash may accelerate its fusion.

' Among the specimens of gold ore from Mexico,' continues the author, ' which I received at Rome from the Chevalier Azara, the Spanish ambassador, I found one which had leucite for its matrix.

' In this instance, the crystals are a line in diameter, of a greenish

white colour, semi-transparent, and agglutinated or cemented by an oxyd of iron and copper, containing laminæ of gold.

'My friend and colleague Lelièvre, of the Board of Mines, discovered, in 1785, in the mountains of *Travaux de la Providence*, near Gavarnie, in the Pyrenees, a granitous rock, composed of quartz, brown mica, and some red garnets, interspersed with small greyish garnets, of a line in diameter, which become white and refractory in the fire, and exhibit all the other characters of leucite. I know of no other mineralogist who has mentioned this substance as occurring in circumstances unconnected with volcanoes.'

If this intelligence be accurate, it is certainly curious; but we are not informed of the specific gravity and analysis of the Mexican and Pyrenean crystals, which, we are much inclined to suspect, are only accidental varieties of the garnet, not essentially different, perhaps, from those pale green specimens which Launoy conjectures have been found in Siberia. The striking conformity, too, in the composition of lava and leucite, as indicated by Vauquelin's analysis, renders it extremely probable that they have a similar origin. We, moreover, collect from the observations of Salmon and Buch, that the leucites of Borghetto on the Tiber, contain, in their centre, a nucleus of the very lava which surrounds them; and, in many cases, a filament of the same lava, proceeding from the nucleus, and traversing the crystal, is observed to be connected with the general mass. Hence, we cannot easily resist the conclusion, that these leucites have shared the fluidity of their encompassing paste at the period of its formation, and that their crystallizations have been determined by the laws of their affinities, or that the crystallization of leucite and the progress of lava to solidity are simultaneous. In confirmation of this view of the subject, we may add, that the leucites of Pompeii enclose nuclei of the tufa, formed of the ashes which overwhelmed that unfortunate city; that Breislak, Thompson, Sage, and Spallanzani attest the volcanic crystallization of augite, olivine, feldspar, and even mica; and that the hills of *Roca-di-Papa* and *Monte-Cavo*, in the vicinity of Rome, are entirely composed of the matter of leucite.

After all, if we can conceive the formation and cooling of lava in the bowels of the earth as well as on its surface, we need not be startled at the projection of ready formed masses, by expansive impulse, without their being subjected to such violent ignition as to fuse the crystals imbedded in their substance. But it is a point of some consequence to determine, whether leucite be, in the strict sense of the expression, a volcanic product; since, if the affirmative could be established, its presence, in districts which are at present cool and undisturbed, would infallibly bespeak their

volcanic origin; and one important step would be gained in the history of many basaltine rocks. We trust, therefore, that the question will continue to be investigated in those situations in which alone it can be fairly decided.

In another part of the Journals, Dolomieu favours us with a report of one of his mineralogical excursions, which comprizes some singular information relative to the extinct volcanoes of Auvergne. In the first place, it is of some consequence to be assured, on the authority of such a competent judge, that the lavas of Italy and Auvergne are perfectly analogous, since thus we can no longer doubt the identity of their cause. There is, however, a marked difference in the *styles*, if we may be allowed the expression, of the two volcanic fields. In Italy the subordinate hills are disposed in groupes around the principal and central volcano; whereas, in Auvergne, the elevations are detached, and seem to have formed separate fiery systems. It deserves likewise to be remarked, that, in Italy and Sicily, the ashes, scoriæ, and incoherent ejections of various descriptions, have formed immense accumulations over a great extent of circumjacent ground, on which streams of lava have been afterwards induced; whilst, in Auvergne, they distinctly repose on the original granitic soil, the eruptive torrents having forced a passage through the masses of granite, on whose surface they were destined to flow. The author has, we apprehend, more merit in stating these distinctions, than in hastily inferring from them, that the materials of volcanic products are of more ancient formation than granite, and that the interior of our globe is still in a fluid state. Indeed, his conclusions are rendered still more problematical, when we turn to the unassuming assertions of M. Muthuon, who follows him in the same walk, who was bred in the volcanic district in question, and who has prosecuted the study of geology with unwearied diligence and zeal. This gentleman acquaints us, that the granite hills contain in their bosom large heterogeneous masses, and veins of indubitable volcanic origin; that the ancient volcanoes are frequently approximated to one another; and that the fragments of granite detached by eruptions, are more or less calcined, opaque, or deprived of their water of crystallization.

We confess, too, that the hypothesis of sudden refrigeration in water, appears to us inadequate to explain those well known prismatic forms, which are occasionally assumed by basalt. If some appearances on the shores of Sicily seem to countenance such an opinion, others on the coasts of Iceland, St Helena, the Isle of Bourbon, &c. may, with equal propriety, be quoted in opposition to it. Besides, we have frequently had occasion to observe this columnar disposition near the top of a hill, when the whole

inferior part of the mass was amorphous. From a variety of facts, which we have not leisure to detail at length, there arises at least a very allowable presumption, that exposure to the external air is one of the requisites in the formation of these prismatic ranges. Mr Williams, whom we have already quoted, and whose opportunities of observing the mineral productions of this country were many and favourable, is decidedly of this opinion. After citing Salisbury Crags, in our immediate neighbourhood, and the beautiful columns at Hillhouse lime-quarry, near Linlithgow, as proofs of his assertion, he proceeds thus.

'The basaltine rock is to be judged of and denominated from its quality and colour and component parts, and not only from the figure it sometimes assumes, which is merely accidental, arising from situation more than from the quality of the stone. This rock is very common in the coal countries, and in many other parts of Scotland; and it is frequently found formed into globous, spherical, and other figures, as well as the columnar; but always where it now is, and we have good reason to suppose that it always was exposed to the external air.

'Wherever we trace a stratum of basaltes under the cover of other incumbent rocks, it is not then formed into any regular figure. Wherever we cut through it in sinking coal-pits, we do not find it regularly formed. Wherever the face of a regularly formed basaltine rock is quarried away until it goes under other incumbent rocks, we soon lose the angular figures, and an uniform face of a rock comes in without the least appearance of a prismatical, glebous, or any other regular figure.'

To M. Dolomieu we are also indebted for an acute and elaborate essay on '*Mineral Species.*' That accurate and competent specific distinctions have not yet been laid down in the science of mineralogy, we will readily grant; but the proposed innovation of founding these distinctions on the integral molecule, however philosophical it may appear in theory, is liable to the twofold objection, that the integral molecule is neither easily detected nor easily characterized.

Upon this author, however, we cannot find in our hearts to be severe, since the same genius which inspired this masterly and eloquent fragment of an original system, under peculiar circumstances of vexation and discomfort, might, in happier hours, have devised methods of obviating practical difficulties. In the dungeon of Messina, in which he was detained, in violation of the laws of nations, and in spite of the remonstrances of courts and learned societies, the author traced these new views of mineralogical arrangement on the margins of a few books which the gaoler had left him, with the black of his lamp-smoke and water, for ink, and a bone rubbed against the wall into the rude semblance of a pen. The editors of the present work have inserted Lacépède's

historical notice of his life and writings, which is unfortunately disfigured by the pompous declamation of a French *eloge*. A plain recital of facts would have better accorded with the noble simplicity of Dolomieu, the recollection of whose virtues and sufferings is still fresh in the minds of many, and the memory of whose talents and unwearied zeal in the cause of science can never perish.

Lapeyrouse's relation of his *journey to Mont-Perdu*, is written with spirit, though his style sometimes verges on affected stateliness. We shall quote his general results, which are abundantly perspicuous, and most of them fairly deducible from his interesting observations.

'1. There are chains of mountains, in which beds of granite, porphyry, trapp, hornstone, and petrosilex, alternate with those of limestone.

'2. This limestone is so blended and incorporated with the granite, trapp, and other rocks, at the junction of their beds, and they are so completely locked into one another, that it is impossible not to recognize their common origin.

'3. We are compelled to admit, that this limestone, uniformly destitute of organic remains, is primitive, and coeval with the granite, porphyry, trapp, hornstone, and petrosilex.

'4. The limestone which contains vestiges of petrified animals, which has its appropriate characters, which is never blended with the primordial rocks, but is often incumbent on them, has a different origin, and is of a more recent formation than these rocks.

'5. Numerous tribes of petrified marine animals occur in this limestone; and, as their prototypes still live in the bosom of the sea, we cannot reasonably reject the belief, that the sea, during a long period, covered the places in which these petrified tribes are now found.

'6. Mont-Perdu, and all that central and most elevated portion of the Pyrenees, which includes a profusion of petrified marine bodies, distributed even in large families, have been formed under the waters of the sea.

'7. When the sea accumulated the great calcareous masses of the centre of the Pyrenees, there existed continents inhabited by quadrupeds.

'8. The mixture of marine bodies with the bones of quadrupeds, attests that they were deposited by the sea.

'9. The alternations and the nature of the beds of rock which sustain these secondary masses, their inclination in a contrary direction, their want of every organic body, their symptoms of decay under the secondary stone which invests them, prove that they existed long before the period which can be assigned to the deposition of these secondary ridges and masses.

'10. The primordial ridges of the Pyrenees had another position than that of the highest elevations of the present chain.

'11. As most of the summits of these regions, whether those of porphyry, hornstone, or trapp, have their tops or sides encompassed with limestone, it is probable that the waters which gave rise to the loftiest central ridges, deposited the same secondary rock on the above mentioned summits, which they wholly cover.

'12. The regularity, the sporting, and the caprices of the vertical beds of submarine sandstone and limestone, the heterogeneous insertions of one rock into another, the uniformly vertical position of the beds of the primitive chain, and of the secondary ridges, the upright beds cut by horizontal strata, exclude the admission of any sudden or irregular commotion, which gave an erect position to the horizontal strata.

'13. The sandstones are a deposition from the waters. Those of Mont-Perdu are the result of their last work.'

Reserving his botanical stores for the *Flora Pyrenaica*, the author only slightly notices, as rarities, *Ranunculus glacialis*, *R. parnassifolius*, *Androsace aretia*, (probably *Carnea* of Linn.) *Daphne calycina*, *Saxifraga longifolia*, and *Arenaria fruticulosa*.

Lapeyrouse and his party only approached the summit of Mont-Perdu; but *Ramond* attained to it. The account of his ascent and observations, forms an excellent supplement to the preceding paper: but, as his exposition of the Pyrenees forms a separate publication, we wave the discussion of this single memoir.

In the *Mineralogical Report of the Department of the Ardèche*, it is stated, on the authority of *Gensanne*, but with a degree of brevity which too much characterizes the Report, that antimony has been found imbedded in a matrix of pit-coal. This we notice, merely on account of its singularity; and we hope that the circumstances will soon be more distinctly and fully explained.

It appears from *Vauquelin's analysis of the steatitic earth* which is swallowed by the famished natives of New Caledonia, that it contains no nutritious ingredients, but, on the contrary, two principles inimical to the human constitution, namely, the oxyds of iron and copper. The devourers of this miserable fare, then, must have recourse to it merely from the imperious desire of allaying the uneasy sensation of hunger; and this may, in some measure, be effected by preserving the distension of the viscera.

Before we dismiss these volumes from our table, we cannot refrain from expressing our surprise at M. de Luc's scepticism respecting the existence of atmospheric stones. Though Chladni's hypothesis may be fanciful, or even untenable, it does not follow, as a necessary consequence, that the Siberian mass of iron, of enormous bulk, and containing nickel, is the produce of some forgotten forge. Even if the truth of this last opinion could be established, which, reasoning on chemical principles, we conceive to be impossible, it could not materially invalidate the evidence of positive testimony, on which the existence of meteoric stones,

whether formed in the atmosphere or elsewhere, securely rests. After diligent and repeated researches, M. Mettich, inspector of mines, could discern no trace of any foundery in the neighbourhood of the Siberian mass; Pallas was convinced, indeed, that it could never have been formed in the rude forges of the miners, which never yielded more than fifty or sixty pounds of metal at a time; and the analyses of Howard and Vauquelin present results which we should in vain expect from iron artificially prepared from its ore, and which seem evidently to confirm the tradition of the Tartars, who assert that the mass in question descended from the clouds. Proust and Klaproth, whose accuracy is not to be rashly impeached, have discovered, that native iron, reputed meteoric, differs from that which occurs in a fossil state, by the presence of nickel; and the numerous and minute coincidences which chemical investigation has revealed between the vulgar and scientific history of these insulated fragments of iron in the metallic state, powerfully induce us to class them with those stony substances which have fallen from the atmosphere.

In this class, we no longer hesitate to insert the celebrated stone of *Ensisheim*. The narrative which was deposited with it in the church, may be rendered thus.

'In the year of the Lord 1492, on Wednesday, which was Martinmas eve, the 7th of November, a singular miracle occurred; for, between eleven o'clock and noon, there was a loud clap of thunder, and a prolonged confused noise, which was heard at a great distance; and a stone fell from the air, in the jurisdiction of Ensisheim, which weighed two hundred and sixty pounds, and the confused noise was, besides, much louder than here. Then a child saw it strike on a field in the upper jurisdiction, towards the Rhine and Inn, near the district of Giscand, which was sown with wheat, and did it no harm, except that it made a hole there: and then they conveyed it from that spot; and many pieces were broken from it; which the landvogt forbade. They therefore caused it to be placed in the church, with the intention of suspending it as a miracle: and there came here many people to see this stone. So there were remarkable conversations about this stone: but the learned said that they knew not what it was; for it was beyond the ordinary course of nature, that such a large stone should smite the earth from the height of the air; but that it was really a miracle of God; for, before that time, never any thing was heard like it, nor seen, nor described. When they found that stone, it had entered into the earth, to the depth of a man's stature, which every body explained to be the will of God, that it should be found; and the noise of it was heard at Lucerne, at Villing, and in many other places, so loud, that it was believed that houses had been overturned: and as the King Maximilian was here, the Monday after St Catharine's day, of the same year, his royal Excellence ordered the stone

which had fallen, to be brought to the castle; and after having conversed a long time about it with the noblemen, he said that the people of Ensisheim should take it, and order it to be hung up in the church, and not to allow any body to take any thing from it. His Excellency, however, took two pieces of it, of which he kept one, and sent the other to the Duke Sigismund of Austria; and they spoke a great deal about this stone, which they suspended in the choir, where it still is; and a great many people came to see it.'

Trithemius, in his Chronicle, vol. XI. p. 551, employs language to this effect. 'In the same year, on the 7th day of November, in the village of Simtgaw, near the townlet of Ensisheim, not far from Basil, a city of Germany, a stone called a thunder-stone, of a prodigious size, for we know from eyewitnesses, that it weighed two hundred and fifty-five pounds, fell from the heavens. Its fall was so violent, that it broke into two pieces. The most considerable is still exhibited at the door of the church of Ensisheim, suspended by an iron chain, as a proof of the fact which we have mentioned, and to preserve it in the public recollection.' Again, from Paul Lang, as cited in the third volume (p. 1264.) of the *Scriptores Rerum German. Hist.*, we learn, that a furious storm arose on the 7th of November 1492; and that, while the thunder roared, and the heavens appeared to be all on fire, a stone, of an enormous size, fell with a hideous noise, near Ensisheim. 'Its form was that of the Greek delta, with a triangular point. They still show it at Ensisheim as a wonderful phenomenon.'

Both these chroniclers lived at the period which they assign to the descent of this extraordinary mass; and, although their very names are hastening to oblivion, it behoves us to remark, that *Trithemius* yielded to few of his contemporaries in labour and learning; and that *Lang*, though a German monk, travelled in search of historical monuments, and had the candour and the boldness to arraign the license of the Catholic clergy, and to applaud the independence of Luther and Melanchthon.

M. Barthold, we are aware, has laboured to convince his readers, that this far-famed fragment is merely argilloferruginous, of secondary formation, detached from an adjacent mountain, and conveyed by some torrent, or land-flood, to the spot on which it was found. In this hypothesis, we might partially acquiesce, did not the *naïveté* of contemporary and concurring records militate against it, and had not Vauquelin's more precise analysis detected the same constituent parts as in the other specimens denominated atmospheric, namely silica, magnesia, iron, nickel, sulphur, and a small quantity of lime. 'This stone, then,' to use the language of this distinguished chemist,

'in every respect resembles others which have fallen from the atmosphere.'

Vauquelin's own paper, which properly finds a place in the Journals, appears to us to be sufficiently decisive of the general question. Had he entered a little more into the details of the different cases, he would probably have convinced M. de Luc himself. Our limits will only allow us to supply his deficiency of circumstances in one instance, but that we reckon an important one, namely, the shower of stones which fell near Agen. The notoriety of the phenomenon in France, might absolve Vauquelin from a formal recital of the particulars. In this country, however, where the facts have obtained less publicity, it may be proper to state them somewhat more explicitly. Of the numerous accounts of this phenomenon, some of the most interesting are addressed to M. Darcet, the celebrated chemist. The following account is extracted from a letter to that gentleman, written by a respectable inhabitant of St Sevère.

'Yesterday our town was agitated by a very unusual alarm. About a quarter past nine o'clock, there suddenly appeared in the air a fireball, dragging a long train, which diffused a brilliant light over the horizon. This fireball soon disappeared, and seemed to fall at a hundred paces from us. Soon after, we heard an explosion much louder than that of cannon, or of thunder. Every body dreaded being buried under the ruins of his house, which seemed to give way from the concussion. The same phenomenon was seen, and the report heard in the neighbouring towns, as Mont-de-Marsan, Tartas, and Dax. The weather, in other respects, was very calm, without a breath of wind, or a cloud; and the moon shone in all her brightness.'

M. Darcet's brother, a clergyman in that part of the country, sent him a small stone, which was picked up on the morning after the explosion, and the history of which he was scrupulously anxious to investigate. Being satisfied with respect to all the particulars, he at length despatched it to Paris, accompanied with some curious remarks.

'When the stones fell,' says he, 'they had not their present degree of hardness. Some of them fell on straw, bits of which stuck to the stones, and incorporated with them. I have seen one in this predicament. It is at present at La Bastide; but I cannot induce the possessor to part with it. * * * Those which fell on the houses, produced a noise, not like that of stones, but rather of a substance which had not yet acquired compactness.'

For the entertainment of our readers, we shall also cite the *procès-verbal*, with as little injury as possible to the original phraseology.

'In the year one thousand seven hundred and ninety, and the thir-

tieth day of the month of August, we, the Sieur Jean Duby, mayor, and Louis Masillon, procurator of the commune of the municipality of La Grange-de-Juillac, and Jean Darmite, resident in the parish of La Grange-de-Juillac, certify in truth and verity, that on Saturday the 24th of July last, between nine and ten o'clock, there passed a great fire; and after it we heard in the air a very loud and extraordinary noise; and about two minutes after, there fell stones from heaven; but fortunately there fell only a very few, and they fell about ten paces from one another, in some places, and in others nearer, and, finally, in some other places farther, and falling, most of them, of the weight of about half a quarter of a pound each; some others of about half a pound, like that found in our parish of La Grange; and on the borders of the parish of Creon, they were found of a pound weight; and, in falling, they seemed not to be inflamed, but very hard and black without, and within of the colour of steel: and, thank God, they occasioned no harm to the people, nor to the trees, but only to some trees which were broken on the houses; and most of them fell gently, and others fell quickly with a hissing noise: and some were found which had entered into the earth, but very few. In witness whereof, we have written and signed these presents. Duby, Mayor. Darmite.'

According to M. Baudin, as he and M. Carris of Barbotan were walking in the court of the castle of Mormes, about half past nine o'clock, when the air was perfectly calm, and the sky cloudless, they found themselves suddenly surrounded by a pale, clear light, which obscured that of the full moon. On looking up, they observed, almost in the zenith, a fire-ball of an apparently larger diameter than that of the moon, with a train five or six times longer than its body, and gradually tapering to a blood red point, though the rest of the meteor was of a pale white. The direction of this luminous body, which moved with great velocity, was from south to north. In about two seconds it split into portions of considerable size, which fell, in different directions, like the fragments of a bomb. These became extinguished in the air; and some of them assumed, as they fell, that blood-red colour which had been observed at the point of the tail. Two or three minutes after, M. Baudin and his friend heard a dreadful explosion, like the simultaneous discharge of several pieces of ordnance, which shook the windows in their frames, and precipitated kitchen utensils from their shelves. From the court, the observers proceeded to the garden, when the noise still continued, and seemed to be directed over their heads. Some time after it had ceased, they heard a hollow sound, rolling in echoes, for fifty minutes along the chain of the Pyrenees, and prolonged for four minutes, when it gradually died away in distance. At the same time, the atmosphere smelt strongly of sulphur. From the interval which occurred between the bursting of the meteor and

the report, M. Baudin conjectured, that this fireball must have been at least eight miles from the earth's surface, and that it fell about four miles from Mormes. 'The latter part of my conjecture,' says he, 'was soon confirmed by an account which we received of a great many stones having fallen from the air at Juillac, and in the neighbourhood of Barbotan. One of these places lyes at nearly four miles to the north of Mormes, and the other about five to the north-north-west.'

Among various other circumstances related by M. Goyon d'Arzas, in his letters to Professor St Amand, he observes, that when the fireball gave way, a great number of stones, of a deep slate-grey colour, mostly of a flat oval shape, very hard, close-grained, and heavy in proportion to their size, fell in the parish of Juillac, and some of the neighbouring districts. In general, they weighed from half a pound to two or three pounds. One, exceeding twenty pounds, was carried, as a curiosity, to the town of Mont-de-Marsan. Though, for the most part, smooth on the surface, they were occasionally marked by longitudinal fissures; and their transversely striated fracture exhibited indications of metallic veinlets, chiefly of a ferruginous complexion. While yet ignited, and scattered in the air, they formed that magnificent fire-work, that shower of flame, which illumined the horizon over a large tract of country. In another letter, the same gentleman assures his correspondent, that the details which he transmitted to him were attested by reputable citizens, who received them from eye-witnesses, and most of whom had collected the stones on a bare moor, of an extremely thin soil of white sand, on which no stones of any description had been observed in the memory of man. This meteor was seen at Bayonne, Auch, Pau, Tarbes, and even at Bordeaux and Toulouse. At the last mentioned place, it excited little attention, on account of its great distance, and its appearing only a little brighter than a shooting-star.

When all the circumstances of this case are duly considered; when we are presented with the concurring testimony of the learned and the unlearned of the district in which the phenomenon occurred; when we find the Professor of Natural History in the central school of Agen retracting his incredulity; and when we are assured that Vauquelin obtained from the transmitted specimens the same substances that are contained in other atmospherical stones, and nearly in the same proportions, it would seem highly unreasonable to withhold our assent, merely because we have not ourselves had ocular demonstration of the alleged particulars.

M. de Luc will not deny, that, in all ages, luminous meteors have, from time to time, been observed in the atmosphere, and that their disappearance has been sometimes accompanied with

explosion. That it has, moreover, been followed by the fall of one or more heavy bodies to the earth's surface, is a position so repugnant to our ordinary conceptions of the tenor of physical events, that we are certainly justified in not believing it on slight or scanty evidence. Yet, with all due deference to some philosophers of name, we are not prepared to assert, that it implies an impossibility. For who has explored the higher regions of the atmosphere? or who knows what may take place beyond its precincts? If chemistry can demonstrate, that the combination of a concentrated acid and an alkali forthwith produces a solid, and that oxygen gas may assume fixation, is it too bold to presume, that some similar combination, or some analogous process, effected in the grand laboratory of the atmosphere, may lye within the range of possible occurrences? Again, if astronomy teach us, that a force six times greater than that which discharges a bullet of twenty-four pounds weight, is adequate to the projection of a solid body beyond the sphere of the moon's attraction, are we peremptorily to decide, that no such projectile force can, in any instance, be exerted on the surface of our satellite? At all events, the same Being, who called into existence those countless and sublime masses of matter which revolve in space, may, to serve purposes unknown to us, create bodies infinitely smaller, and destined to impinge on some planetary orb. The reasoning of an angel would not convince us, that a part is greater than the whole, or that the value of two and two is equivalent to six; but a very ordinary logician may prove to our satisfaction, that the contact of particles of matter in portions of space, which lye beyound our globe, is not a chimerical supposition. Every thing around us proclaims that matter is subject to incessant change. New forms and new modifications are ever springing into being; and can we doubt that the same particles, as they may happen to be affected or influenced by various circumstances, may exist in the state of gas, of aqueous vapour, or of a concrete mass? Further, the existence of a phenomenon, if otherwise well attested, cannot be disproved by our inability to explain it. How multiplied, in fact, are the subjects even of our daily observation, which we cannot satisfactorily expound? We cannot say, why a small seed should gradually unfold into a large tree; why flame should produce heat; why the hand should act in immediate subserviency to the will; or why a contusion of the brain should induce stupor, alienation of mind, or death. It is one thing to prove a fact, and it is another to account for it.

If these premises, which are susceptible of copious illustration, be well founded, it follows, of course, that we are not entitled to reject the existence of meteoric stones, provided it be established

by valid testimony. Into portions of that testimony we have, on this, and former occasions, candidly inquired; and the result has been, that, so far from discrediting the descent of such bodies, we are inclined to suppose that it happens more frequently than is commonly imagined. For it deserves to be noted, that many foreign collections of minerals contain specimens of reputed celestial origin, and exhibiting the genuine atmospherical physiognomy; that many relations of particular instances may have sunk into oblivion, from the contempt with which they were treated by the learned; and that, on a fair computation of chances, the phenomenon must sometimes have occurred in desert tracts of the earth, and more frequently in the pathless expanse of the ocean.

ART. V. *The Origin of the Distinction of Ranks: or, an Inquiry into the Circumstances which give Rise to Influence and Authority, in the Different Members of Society.* By John Millar, Esq. Professor of Law in the University of Glasgow. The Fourth Edition, corrected. To which is prefixed, *an Account of the Life and Writings of the Author*, by John Craig, Esq. Edinburgh, Blackwood. Longman & Co. London. 1806. 8vo. pp. 430.

IN reviewing the last and most complete edition of Mr Millar's Historical View of the English Government, where we took occasion to say a few things as to the character of his genius and general speculations, we expressed our regret that his posthumous works should be offered to the public without any biographical account, or prefatory memoir of the author: and it was chiefly with a view to supply this deficiency, that we then ventured to hold out to the readers of these volumes, a hasty and imperfect sketch of that eminent and indefatigable man. It is now our duty, we think, to announce, that, along with an uniform edition of the only other publication which Mr Millar ever acknowledged, the deficiency of which we complained has been supplied, by a copious life of the author, compiled by his nephew Mr Craig; who enjoyed the benefit of his intimate society for the last thirty years of his life; and seems to be well qualified, by his talents and attainments, to give a correct picture of the studies and dispositions of his distinguished relative.

Upon looking back to what we formerly wrote upon that subject, we do not see any reason to alter or retract the impression we then endeavoured to communicate of this intelligent writer. Mr Craig's character of him is, as might have been expected, more elaborate, and more flattering than ours; but it coincides in all

the leading traits; and we feel but little inclined to enter into any discussion with him, as to those upon which we might be inclined to differ. The facts and incidents which make up the narrative are not, in general, of a nature to be very interesting to the public; though some of the details into which he enters appear to us to afford a curious and striking illustration of that activity and intrepidity of understanding, which certainly formed the characteristic excellence of Mr Millar's intellectual character.

Mr Millar was born in 1735, the son of a clergyman in the neighbourhood of Edinburgh, and went to College at Glasgow in 1746, where he distinguished himself, not so much for the closeness of his application, as for the extent of his information, and his ingenuity and vivacity in conversation. He attended the lectures of Dr Adam Smith in this seminary, after his regular course of study was concluded; and laid the foundation of that mutual friendship and esteem, by which those two distinguished persons were afterwards connected through life. He was originally intended for the profession of his father; but having very early conceived a distaste to some of the doctrines and tenets of the Scotish church, he was afterwards permitted to turn his attention from the Pulpit to the Bar. Nothing could be more fortunate for a young man with such a destination, than the invitation which he received at this time to enter into the family of Lord Kames, and superintend the education of his son: he remained two years in this situation, during which he acquired the friendship of the celebrated David Hume, and many other distinguished persons who lived in the society of his patron.

It seldom happens that we can trace the genealogy of a literary progeny so correctly, as the two circumstances, which have now been mentioned, enable us to do that of Mr Millar's future studies. It is perfectly evident to all who are acquainted with their writings, that his speculations are all formed upon the model of those of Lord Kames and Dr Smith, and that his merit consists almost entirely in the accuracy with which he surveyed, and the sagacity with which he pursued the path which they had the merit of discovering. It was one great object of both those original authors, to trace back the history of society to its most simple and universal elements,—to resolve almost all that has been ascribed to positive institution into the spontaneous and irresistible development of certain obvious principles,—and to show with how little contrivance or political wisdom the most complicated and apparently artificial schemes of policy might have been erected. This is very nearly the precise definition of what Mr Millar aimed at accomplishing in his lectures and his publications; and when we find that he attended the lectures of Dr Smith, and lived in the family of

Lord Kames, we cannot hesitate to ascribe the bent of his genius, and the peculiar tenor of his speculations, to the impressions he must have received from those early occurrences. We cannot help regretting, therefore, that Mr Craig should have passed over this most decisive part of his uncle's life with so short and superficial a notice. A detailed account of his intercourse with Lord Kames in particular, and the nature of his studies while he resided under his roof, would probably afford a very interesting picture of the transfusion of tastes and opinions, as well as of the modifications they received from their adoption into another system.

Mr Millar was called to the Bar at Edinburgh in 1760; and, during the very short time he continued in practice, gave every indication of future eminence in his profession; but having married at this early age, he was tempted, in the course of the following year, to apply for the Chair of Law in the University of Glasgow, to which, by the interest of Lord Kames and Dr Smith, he was immediately appointed. As it was chiefly in this situation that Mr Millar exercised those peculiar talents, and acquired that extraordinary reputation by which he was so honourably distinguished among all who had the benefit of his personal acquaintance, Mr Craig has very properly entered into some detail as to his habits and qualifications as a lecturer. He observes, in the first place,

'Mr Millar never wrote his lectures; but was accustomed to speak from notes, containing his arrangements, his chief topics, and some of his principal facts and illustrations. For the transitions from one part of his subject to another, the occasional allusions, the smaller embellishments, and the whole of the expression, he trusted to that extemporaneous eloquence, which seldom fails a speaker deeply interested in his subject. In some branches of science, where the utmost precision of language is requisite to avoid obscurity or error, such a mode of lecturing may be attended with much difficulty, and several disadvantages: But in Morals, in Jurisprudence, in Law, and in Politics, if the Professor make himself completely master of the different topics he is to illustrate, if he possess ideas clear and defined, with tolerable facility in expressing them, the little inelegancies into which he may occasionally be betrayed, the slight hesitation which he may not always escape, will be much more than compensated by the fulness of his illustrations, the energy of his manner, and that interest which is excited, both in the hearer and speaker, by extemporaneous eloquence.' p. xiv. xv.

He afterwards enlarges very properly upon the natural animation of his manner, and the delicacy of that *tact* by which he was enabled to perceive when he was fully understood by his auditors. Yet we do not think there is any where, in this performance, a complete view of that peculiar manner of lecturing to which Mr

Millar was indebted for so large a share of his reputation. We offer the following as a very remote approximation.

There are only three styles of public lecturing, it appears to us, that are calculated to answer the end of instruction. The first is, the plain and grave style, in which the necessary information is delivered in short, simple, and weighty sentences. The utterance is slow, distinct, and impressive; and the attention is engaged by the conciseness and importance of the matter, and the skill and simplicity with which it is arranged and communicated. This is of all others the most difficult. It is suited but to few subjects, and produces, by its failure, the most intolerable of all compositions,—those dull, solemn, somnolent discourses, in which vulgar prejudices and vulgar truisms are delivered under the name of plain sense, and in which the hearer, despairing of originality, is destined to long in vain for the relief of rant and absurdity. The second style is that of a higher and more ambitious eloquence, in which there is something of enthusiasm and passion, and in which it is the aim of the lecturer to excite the zeal and admiration of his hearers, as well as to inform their understandings. The pulpit, with us, is the chief scene of such eloquence; though it is well suited to many of the discussions of moral philosophy and politics, and though the French and Italians have introduced it in lectures upon natural history. Its chief disadvantage is, that it tempts the speaker to think too much of himself, and accustoms the hearers to attend more to the beauty and contrivance of the diction, than to the value or the evidence of the doctrine. The last style of lecturing, which was that exemplified by Mr Millar, is where vivacity and familiarity take place of solemnity or eloquence, and, being constantly employed in subserviency to argument, help to lighten the task of attention, and to facilitate the comprehension and recollection of the doctrines they illustrate. There are few things so repulsive to the gayety and presumption of youth, as the air of seriousness and authority with which their academical instructions are usually delivered. They are disgusted with the appearance of labour which is thus made to invest the studies proposed to them, and either sink into stupid acquiescence, or are provoked into hidden contempt, by that official omniscience which stalks over difficulties and obstacles with undisturbed serenity and dignity. It is to little purpose, indeed, to make harangues to young men from a velvet gown and an elbow chair. Their teacher must *talk* to them, after a certain age, if he wishes to do them any good. He must put them on a level with himself, and associate them in some measure in his inquiries. He must talk to them too, in a good degree as they talk to each other. He must work with them, as well as for them; and, instead of appalling them

with the splendour of his attainments, he must encourage them, by showing how easily they may be made, and with what facility the notions which they throw out in common conversation, may be improved into solid arguments, and pursued to valuable conclusions. Mr Millar is the only public lecturer we have known, who seems to have been fully aware of those facts; and, by attending to them, he certainly delivered a series of most instructive lectures in a more attractive and engaging manner than any other teacher we have heard of; commanding the attention of all descriptions of hearers, at the same time that he convinced their understandings; and not only putting them in possession of knowledge, but making it familiar and serviceable to them.

His manner was familiar and animated, approaching more nearly to gayety than enthusiasm; and the facts which he had to state, or the elementary positions he had to lay down, were given in the simple, clear, and unembarrassed diction in which a well-bred man would tell a story, or deliver an opinion in society. All objections that occurred were stated in a forcible, clear, and lively manner; and the answers, which were often thrown into a kind of dramatic form, were delivered with all the simplicity, vivacity, and easy phraseology of good conversation. His illustrations were always familiar, and often amusing; and while nothing could be more forcible or conclusive than the reasonings which he employed, the tone and style in which they were delivered gave them an easy and attractive air, and imparted to a profound and learned discussion, the charms of an animated and interesting conversation. No individual, indeed, ever did more to break down the old and unfortunate distinction between the wisdom of the academician and the wisdom of the man of the world: and as most of the topics which fell under his discussion, were of a kind that did not lose their interest beyond the walls of a college, so the views which he took of them, and the language in which they were conveyed, were completely adapted to the actual condition of society; and prepared those to whom they had been made familiar, to maintain and express them with precision, without running the least risk of an imputation of pedantry or ignorance.

It will be admitted to have required no ordinary share of intrepidity, and confidence in the substantial merit of his instructions, to have enabled a professor thus to lay aside the shield of academical stateliness, and not only to expose his thoughts in the undress of extemporaneous expression, but to exhibit them, without any of the advantages of imposing or authoritative pretences, on the fair level of equal discussion, and with no other recommendations but those of superior expediency or reason. Mr Millar,

however, carried this still farther. The practice recorded in the following passage is *unique*, we believe, in the usage of modern seminaries.

'Not satisfied with explaining his opinions in the most perspicuous manner in his Lecture, Mr Millar encouraged such of the students as had not fully comprehended his doctrines, or conceived that there was some error in his reasonings, to state to him their difficulties and objections. With this view, at the conclusion of the Lecture, a little circle of his most attentive pupils was formed around him, when the doctrines which had been delivered were canvassed with the most perfect freedom. Before a professor can admit of such a practice, he must be completely master of his subject, and have acquired some confidence in his own quickness at refuting objections, and detecting sophistry. A few instances of defeat might be injurious to his reputation, and to the discipline of the class. But, should he possess a clear comprehension of all the bearings of his system, joined to quickness of understanding, and tolerable ease of expression, he will derive the most important advantages from the unrestrained communications of his pupils. He will learn where he has failed to convey his ideas with accuracy, where he has been too concise, or where imperfect analogies have led him into slight mistakes; and he will easily find a future opportunity to introduce new illustrations, to explain what has been misapprehended, or correct what was really an error. To the students, such a practice insures accurate knowledge; it teaches the important lesson of considering opinions before adopting them; and gives an additional incitement to strict and vigilant attention. Accordingly, to be able to state difficulties with propriety, was justly looked upon, by the more ingenious and attentive students, as no slight proof of proficiency; and, to be an active and intelligent member of the fireside committee, never failed to give a young man some consideration among his companions.' p. xviii. xix.

We doubt much if any teacher of youth has exposed himself to equal hazards, since the days of Socrates and Plato; and imagine, that this instance of intrepidity, in a professor venturing down into the arena among his pupils, and grappling with them in the open field of conversational discussion, will meet with few admirers, and fewer followers among those who are in possession of this vantage-ground in the republic of letters. Akin to these public discussions, was the temper in which he accustomed himself to converse with his domestic pupils: of this part of his demeanour, Mr Craig has given the following just and interesting account.

'Perhaps nothing contributed so much to the improvement of his pupils, as the art with which he contrived to make them lay aside all timidity in his presence, and speak their sentiments without constraint. While he was thus enabled to judge of their abilities and attainments, he acquired, in addition to the respect due to his talents, that confidence and friendship which ensure the attention of young men, and

render the office of a teacher not undelightful. This eaſy and liberal communication of ſentiments extended equally to every ſubject; to the doctrines taught in his own claſſes; to criticiſm; to conteſted points of hiſtory; and to the political ſtruggles of the day. Whatever Mr Millar's own opinions were on theſe ſubjects, he never wiſhed to impoſe them on his pupils. In thoſe diſcuſſions, which his converſation often introduced, and which, as a moſt uſeful exerciſe to their minds, he was always ready to encourage, he was pleaſed with ingenious argument, even when he did not adopt the concluſion; and he expoſed ſophiſtry, even when exerted in defence of his favourite opinions. In conſequence of his own command of temper, he could at once repreſs any improper warmth that might appear; and, when the debate ſeemed to lead to unpleaſing wrangling, he was always ready, with ſome whimſical alluſion, to reſtore good humour, or, by the introduction of ſome collateral topic, to change the ſubject of diſcourſe. Wherever he diſcovered uncommon literary talents, his converſation called them into exertion, his warm applauſe produced that degree of ſelf-confidence which is almoſt neceſſary to excellence; and his good-humoured raillery, or ſerious remonſtrances, reclaimed from indolence, and deterred from diſſipation.

'In his domeſtic intercourſe, he encouraged, at times, the detail of the juvenile purſuits and amuſements of the young men, both from indulgence to their inclinations, and from a deſire of tracing, in ſuch unreſerved communications, the temper and diſpoſitions of his pupils; but he inſtantly repreſſed all trivial details, and all inſignificant or goſſiping anecdotes of individuals. Even in doing ſo, he avoided, as much as poſſible, every appearance of reſtraint or ſeverity; and the eaſe and affability of his manners contributed, more perhaps than even his talents, to produce that affectionate attachment, with which almoſt all his pupils were inſpired. This attachment he had great pleaſure in cultivating, as the moſt gratifying reward for his labours, and the moſt effectual control on young men, more apt to be influenced in their behaviour by their affections, than by ſtern, and what often appears to them, capricious, authority. While under Mr Millar's care, all his pupils were treated alike; or rather the differences which might be remarked in his attentions, were the conſequence of ſuperior talents or application, never of ſuperior rank. When they left his houſe, his connexion with moſt of them neceſſarily ceaſed. He was always delighted, indeed, to hear of their ſucceſs or eminence; but his regular occupations rendered it impoſſible for him to continue an epiſtolary correſpondence; and his proud independence of mind made him rather decline, than cultivate, the friendſhip of thoſe who ſucceeded to honours, or roſe to power. p. lxvi—lxviii.

We do not think it necessary to follow Mr Craig through the abstract which he gives of the various courses of lectures which Mr Millar delivered as Professor of Law. It will be enough merely to mention, that in the first class of civil law, one half

of the course was occupied with what he termed Lectures on Jurisprudence, in which he endeavoured to lay the foundation of private rights and duties in the great moral principles of utility and sympathy; and that, besides another course of lectures on the Pandects of Justinian, he found leisure to prepare and deliver separate courses of Scotch and English law. The most interesting of his lectures, however, were those which he termed Lectures on Government, in which he delivered a theoretical history of the progress of society, through the various stages of savage, pastoral, agricultural, and commercial life; with a view of the institutions and changes which would naturally be suggested in their political and domestic habits by their successive transformation; illustrating his remarks by an historical review of all the ancient governments, and more particularly by that of Great Britain. The publications which he has given to the world may give some idea of the conception and execution of this course of lectures: the origin and distinction of ranks, comprising most of what he delivered on the theoretical history of society,—and the historical view of the English government,—being a fair specimen of that most interesting and elaborate illustration of his peculiar doctrines.

Mr Millar was for upwards of forty years an active and distinguished member of the Literary Society of Glasgow, consisting of the professors of the University, and some of the more distinguished clergymen in the city and neighbourhood:—he displayed great ingenuity, eloquence, and good temper, in the debates which formed a part of its weekly business; and maintained, for several years, an amicable contest with Dr Reid in defence of the metaphysical principles of Mr Hume. He first published the Origin and Distinction of Ranks in 1771; and, in 1787, the Historical View of the English Government. Notwithstanding his intimate acquaintance with many distinguished characters both political and literary, and the zeal with which he entered at all times into the discussion of public affairs, he paid no more than two short visits to the metropolis, in 1774 and 1792. During his months of summer leisure, he amused himself with embellishing a small estate he possessed in the neighbourhood of Glasgow, and was carried off by an unexpected attack of pleurisy in May 1801.

Mr Craig has drawn his character at large, and in very lively and engaging colours. We cannot afford room for any considerable part of it. His uncommon vivacity, good humour, and ingenuity, made his conversation delightful to persons but little addicted to literary pursuits; while the extent and variety of his information, the closeness and accuracy of his reasoning, and the readiness and originality of his illustrations enabled him to make a distinguished figure in more select and cultivated societies.

'On the subject of politics,' Mr Craig states with great candour, 'he argued always with zeal; and, towards the end of his life, with a considerable degree of keenness. He, who had refused the offer of a lucrative place, which might have introduced him to higher honours, because he feared that his acceptance might be construed into an engagement to support an administration whose measures he condemned,* had little allowance to make for those who sacrificed their principles to their interest. Ever steady and consistent himself, he was apt to suspect the purity of the motives from which all violent or sudden changes in political opinion arose; without perhaps making a due degree of allowance for that alarm, which, however hurtful in its consequences, was the natural result of the blind fanaticism of several popular societies. On a subject, too, which he had studied with the utmost care, he naturally might be rather impatient of ignorant and presumptuous contradiction; nor could his mind brook the imputations which, at a season of political intolerance, were so liberally passed on all the opposers of Ministerial power. Arguing, frequently, under considerable irritation of mind, perhaps unavoidable in his particular circumstances, it is not impossible that expressions may have escaped him which might afford room for mistake, or misrepresentation.' p. xcviii. xcix.

In addition to this very candid statement of a friend who may be suspected of partiality, we have great pleasure in quoting the testimony of Professor Jardine, who is known to have entertained very opposite opinions in politics from those of his celebrated associate. In a memoir read at the Literary Society soon after Mr Millar's death, he expresses himself in this liberal and handsome way, with a view to the political sentiments of Mr Millar. 'However much we may have differed from him on these subjects; respecting his zeal and good intentions, there can be, as I conceive, but one opinion. No little ideas of private interest, no narrow views of advantage or emolument, sunk him to the level of party politicians; but, fair, resolute, and decided, he was, from first to last, the enlightened and manly defender of what he conceived to be the rights and liberties of mankind.'

In his whole conduct, indeed, he indicated a high sense of honour, and a decided contempt and abhorrence for all sordid and mercenary proceedings. His disposition was extremely sanguine, his temper constitutionally cheerful, and his nature generous and friendly, without any thing that approached to caprice or affectation in any part of his behaviour. He left no manuscripts which his executors conceived sufficiently correct to be laid before the public, except those which have been already printed as the third and fourth volumes of the Historical View;

* 'I am not at liberty to give the particulars of this transaction; but I pledge myself to its truth.'

though Mr Craig has tantalized us, by mentioning that there were several valuable chapters of an unfinished treatise, 'On the present and actual State of the British Government;' a subject infinitely more important, and, however wonderful it may appear, infinitely less understood by the body of the nation, than the institutions of Alfred, or the innovations of the Conqueror.

ART. VI. *Asiatic Researches: or, Transactions of the Society instituted in Bengal, for inquiring into the History and Antiquities, the Arts, Sciences, and Literature of Asia.* Volume the Seventh. London, 1804.

IN our First Number, we gave an account of the papers which compose the sixth volume of these Transactions. Two additional volumes have since reached this country; and we lament the circumstances which have so long prevented us from examining their contents; knowing, as we do, the interest which the ingenious labours of our countrymen excite here, and still more perhaps on the continent of Europe. In this interval, a translation of the two first volumes of the Asiatic Researches has appeared at Paris, enriched with copious annotations by the celebrated orientalist M. Langlès, conservateur des manuscrits orientaux à la Bibliotheque Imperiale. Although the review of mere translations from English publications does not fall within the scope of our undertaking, yet the successful elucidations and erudition of the annotator might perhaps provoke and justify a deviation from our plan. We should, in that case, find much to applaud, and something to deplore. Of the notes, indeed, a great part would appear superfluous in this country, where a considerable portion of the information they contain has been long naturalized and disseminated. Two circumstances, perhaps unavoidable, have contributed to add to their bulk, without augmenting their value. First, many European travellers, and a variety of Mohamedan writers, had attempted to delineate the opinions and manners of the natives of India; but ignorant of the language, which could alone furnish a secure guide to their researches, their disquisitions have seldom presented more than an accumulation of errors. Not sufficiently aware of that circumstance, M. Langlès has frequently been led astray by the multiplicity of his information; a fault from which less general learning would in some measure have secured him. Nothing can be more certain than the remark of Sir William Jones, that if we desire to form correct notions relative to the Hindus, we must

begin by forgetting all that has been published respecting them, antecedent to the appearance of Mr Wilkins's translation of the Bhágavat Gita. The second cause, to which may be assigned many erroneous facts and opinions adopted in the work of the learned annotator, is his reliance on the authority of the Roman missionary Fra Paolino de San Bartholomeo. This singular person (whose ignorance of the Sanscrit language, of which he pretended to publish a dictionary, admits of the most unequivocal proof) has thought fit to contradict Sir William Jones, Mr Wilkins, Mr Halhed, and M. Anquetil du Perron, on points of the highest importance, and in terms which even a certainty of being right could not excuse, much less justify. In this discrepancy of authorities, is it wonderful that learned men, personally unacquainted with the facts, should sometimes mistake confident assertion for genuine truth, and arrogant presumption for conscious merit; that the modest and unassuming information of a Jones or a Wilkins, should sometimes give place to the misrepresentations of Fra Paolino?

Notwithstanding the superior advantages which the English orientalists derive from our establishments in the centre of Asia, it may be doubted, whether the zeal and abilities of our neighbours, devoted to the cultivation of eastern learning, will not compensate that disadvantage; and whether we may not in time have more to learn than to communicate. Since the publication of the work above alluded to, M. Langlès has given the world a second edition of his Dictionary of the language spoken by the Mantchew Tartars, to which he has prefixed a dissertation, where their history is traced from the earliest times, till the period when their arms subjugated the empire of China. The same writer is now employed in preparing a complete translation of the Arabian geographers; a work calculated to inspire and to gratify the highest degree of public attention, by presenting the most authentic monuments of the state of the world in the middle ages, when those writers flourished. The justly celebrated academician M. de Lacy has published a dissertation on the ancient history of Arabia, which concludes the long and memorable labours of the Academy of Inscriptions and Belles Lettres. Replete with ingenious criticism, and marked by solid and varied erudition, this memoir will be found highly deserving the attention of all whom such disquisitions can interest. His Chrestomathia Arabica, now in the press, excites expectations proportioned to the high reputation of the writer. A translation of Strabo has appeared at Paris, published at the expense of the government, with copious notes by M. Dutheil. To this work, M. Gosselin, who is considered as a successor worthy of the famous D'Anville, has prefixed a dissertation on the

itinerary stadium of the antients. In this, we understand, he has *proved*, that the most antient measure distinguished by that appellation, was derived from astronomical observations, and demonstrates a correct knowledge of the circumference of the earth at the period of its adoption; that it had fallen into disuse before the Greeks turned their attention to science; that it originated in Asia, since all the distances preserved in that stadium are those of Asiatic positions; and that in all probability it was due to the Babylonian astronomers, whose antient observations are attested by the historians of Alexander. M. Chezy, a young orientalist of fair promise, who to a classical taste unites a critical acquaintance with the poets of Arabia and Persia, has attempted to naturalize their productions in France, by a translation of the poetical romance of Mejnun and Leila, composed by the celebrated Jami. But this simple story, which has exercised the talents of so many Eastern writers, and which must owe all its merit to description, and the beauty of detail, is little calculated to please the Parisian palate. The moonstruck madness of the hapless Mejnun, and the meek resignation of his lovesick mistress, perpetually reproduced in different positions, are altogether incapable of supporting the attention of this lively people. In works of imagination, their exclusive predilection for the admirable writers of their own country, renders them blind to every other merit. With them, to imitate Corneille, Racine, or Jean Baptiste Rousseau, is to imitate the antients. It is probable, indeed, that these fine writers had the antients in view to a certain degree; but the greater part of their successors limit their ambition to imitating them, without concerning themselves about their models. Hence, probably, originates an exclusive taste for indigenous productions; and, since Shakespeare and Schiller, Milton and Klopstock, are fastidiously rejected by them from the number of great poets, the eastern bards, with faults more striking, and beauties more exotic, stand little chance of success. The romance of Jami would probably be more relished in this country, where we can admire the beauties of our own writers, without limiting poetical excellence to compositions modelled on their style, and fashioned to their manner.

Before we resume an examination of the progress made by our countrymen in Eastern learning, we thought, that to such of our readers as these pursuits interest, a rapid sketch of the contemporaneous labours of the French orientalists might not prove unacceptable. Of these, in all probability, a more correct account will be exhibited in our future pages. In the mean time, we return from this digression to the work which suggested it.

Prefixed to the seventh volume of the Asiatic Researches, we find a list of 'Desiderata,' proposed to the industry of the learned. The perusal of it excited a melancholy reflection on the short-lived authority of the most celebrated names. We there find the orthography proposed and laboriously discussed by Sir William Jones, in his introductory dissertation, entirely laid aside. Its advantages, indeed, can be appreciated only by persons conversant with the Oriental languages. But to whom is the charge of superintending the impression of the Society's publications entrusted? Why is an uniform mode of orthography not persevered in, when that system has been considered with attention, approved by all competent judges, and invented by the eminent founder of the Society? Why, in this list of *desiderata*, do we find the sacerdotal cast termed Bruhmuns, in defiance of analogy, of pronunciation and common sense? It were superfluous to furnish other examples, since every page of this volume would supply them. We will content ourselves with remarking, that this negligence will give occasion to infinite confusion and mistake: the names of places and persons differently spelt, will be supposed to indicate different objects: and, in proportion as the Society betrays carelessness and indifference, the value of their labours will diminish, and the public esteem suffer a proportionate abatement.*

'*On the Course of the Ganges, through Bengal. By* Major Colebrooke.'

In this paper, the Surveyor-General presents a striking picture of the inconceivably sudden topographical changes caused by the rivers of Bengal, in altering their beds. 'It is chiefly during the periodical floods, or while the waters are draining off, that the greatest mischief is done; and if it be considered that, at

* We beg leave to mention, that, in future reviews of Oriental publications, we will scrupulously adhere to the orthograghy of Sir William Jones, in writing proper names; and, even in our extracts, take the liberty of adapting them to that model, if ignorance or caprice should have induced our authors to spell them differently. Though the works animadverted upon in our pages be altogether unconnected with each other, yet our labours should possess the merit of uniformity and consistency. Hence, Timurleng in one sheet, should not figure as Tamerlane in the next; nor Murshedabad, the capital of Bengal, be sometimes written Muscadavat, because authors are ignorant of its real appellation. The numerous mistakes of persons and places, occasioned by the want or neglect of an uniform orthography, are so important as to secure the approbation of all competent judges to the resolution we announce.

the distance of two hundred miles from the sea, there is a difference of more than twenty-five feet in the perpendicular height of the waters, at this season, while, at the outlets of the rivers, (excepting the effect of the tides), they preserve nearly the same level at all seasons, some idea may be formed of the increased velocity with which the water will run off, and of the havock which it will make on the banks.' Hence villages are often deserted, and the inhabitants transferred to a situation more remote from the encroachments of the rivers. On the banks of the Ganges, the people, accustomed to such removals, build their huts with such light materials only, as they can, upon emergency, carry off with ease; and there, brick or mud walls are seldom to be met with. But, in proportion to the mass and velocity of the stream, the process of encroachments suffers a remarkable variation. 'The encroachments on the banks of the Ganges, which produce inflections in the course of that river, are ultimately stopped by the growth of islands; which, connecting themselves with the mainland, have a tendency to restore a degree of straightness to the channel. The small rivers are liable to the same encroachments on their banks; but as there is not sufficient space between them, for islands of any bulk to grow up, the effect is usually very different; for the stream, continuing its depredations on the steep side, and depositing earth and sand on the opposite shore, produces, in the end, such a degree of winding, as, in some instances, would appear almost incredible.' The survey of Major Rennel, in the year 1764, furnishes a date from which to calculate the progressive alterations. Accordingly, it is found that the Ganges has deviated from its course no less than two miles and a half, in one place, since that period; whilst the mouths of some rivers are barred up, and others opened; many villages which figure in his map are no longer to be found in the situations assigned them; and islands of considerable magnitude, now inhabited and cultivated, have started into existence, where the river rolled its deepest waters, when observed by that distinguished geographer.

'*On Singhálá, or Ceylon, and the Doctrines of Buddha, from the Books of the Singhálá. By* Captain Mahony.

The writer of this article pretends to no acquaintance with the sacred language of Ceylon. The fruits of his inquiries are given without pretension to erudition, and evidently without suspecting the important consequences deducible from the information he has furnished. But that information leads to results so singularly interesting, though unforeseen by the author, that his dissertation proves infinitely the most curious in the volume before

us, and will demand from us rather an ample commentary than a succinct statement.

The religion of Buddha seems, at one period, to have been prevalent over great part of Hindûstan; but though now nearly extinct in that country, his doctrines may still vie, in point of extensive domination, with those of Mohamed. The rich and populous plains of Siam, Pegu, and Ava; the whole Chinese empire and its tributary kingdoms; the theocratic states of Budtan and Tibet; all the Tartar tribes, excepting the few who have embraced Islamism; the inhabitants of Ceylon, and most of the eastern isles, follow the tenets, and celebrate the rites prescribed by the system of faith distinguished by that appellation. These tenets, indeed, have never been satisfactorily explained. Some information may be collected on the subject, from a memoir of M. de Guignes, extracted from Chinese documents. M. de la Loubera furnishes some popular legends in his instructive account of Siam: the celebrated Pallas presents a variety of facts in his account of the Monghols: but these combined sources afford very imperfect information, and the *desiderata* are ill supplied by the reveries of Georgi, seduced, by some fancied analogies with the Christian religion, to imagine that this ancient superstition was only a modern perversion of its sacred truths. Our own travellers, Symes and Turner, occupied with more important researches during the brief period of their respective excursions, have neglected, or despised, inquiries into religious opinions. Hence, we are still ignorant whether the doctrines of Buddha, universally admitted to be a native of India, bear any, and what, affinity, with the religion of Brahma. By some they are considered as totally different, and of higher antiquity; whilst the Brahmans themselves class Buddha among their Avatára, of whom they consider him as the last.

Many circumstances, indeed, had induced us to imagine, that the Buddhists were a sect whose opinions were not materially different from those of other Hindus. Pallas had exhibited the cosmography of the Monghols, abounding in Sanscrit terms, and, in many particulars, similar to that given by Dr Buchanan of the Burmans, which we have shown to be borrowed from the Bhuvana cosa, a geographical treatise found in greater or less detail in all the Puráná. Colonel Symes makes mention of a dramatic entertainment, of which he was a spectator, in Pegu, founded on the history of Ráma the 7th Avatára; and Turner describes a monument at Tasisudon, on which the Hindu goddess Cáli was represented; and speaks of the celebration of the festival of Durgá, at the same place. These coincidences excited our suspicions that the two systems would be found, upon further examination, to be more nearly connected than was imagined. The

paper before us, composed by an officer who has no hypothesis to support, and is probably little conversant with Hindu mythology, completely confirms the justice of our conjectures, and proves that, notwithstanding their rejection of the Vedá, the Buddhists are genuine Vaïsnava, or adorers of Visnu.

After mentioning the periodical destructions and renovations of the world, which forms a distinguishing feature in both systems, Captain Mahony adds, 'For the government of the world at those different periods, there were twenty-two Buddhas, a proportionate number of whom belonged to each period.' This number of *twenty-two* is too remarkable to be overlooked; and we find in the Bhagavat Purana, that the descents of Visnu upon earth were also twenty-two, though the ten called Avatára were the most remarkable. But as, in a discovery calculated to excite public curiosity, our authority may be called in question, we take leave to subjoin an abridged translation of the third chapter of the Bhágavat, of which two copies are deposited in the Imperial library of Paris.

'1. The first corporeal appearance of the Deity was slumbering on the waters, when from the lotos of his navel sprung up Brahma, in whose members were the germs of future worlds; Brahma was the image of God, endowed with good qualities, and commenced a fervid adoration. 2. He next appeared as the Boar which raised up the earth sunk in the waters. 3. In the form of Náreda, he prescribed what ought to be done and omitted. 4. He performed a long penance in the form of Nara Narayenaw. 5. As Capila he invented the sankhya (numeral) philosophy. 6. As Dattatreya he became son of Atri and Anusuyá, and communicated science to Práhláa, and his other disciples in Aláki. 7. He assumed the forms of the Deva, and of Indra their chief. 8. He was then born of Merudevi, to show the paths of virtue. 9. As Prithu he milked the vacciform earth, and procured salutary plants for the contemplative Risi. 10. As a fish in the river Oxus he saved the Menu Vaïvaswata. 11. As a tortoise he supported the huge mountain Mandara, with which gods and titans churned the milky ocean. 12. As Dwanantari, he rose bearing the ambrosia from the ocean. 13. As a lovely nymph, he fascinated the amorous titans. 14. As a man lion, he destroyed them. 15. As a dwarf, he deluded the potent Beli. 16. As Parasuráma, he extirpated twenty-one times the military cast. 17. As Vyasa, he divided the Veda for the instruction of mankind. 18. As Rámachandra, he conquered Lanca. 19. & 20. He appeared as Ráma and Crisna of the race of Vristi. 21. In the beginning of the Cali Yuga, *he will* appear for the confusion of the enemies of the gods, in the person of Buddha, in the land of Kikáta. 22. In the evening twilight of the Cali, when sovereigns will be little preferable to robbers, he will appear in the form of Kalki. These twenty-two are the principal of the innumerable descents of the Supreme Being.'

Few persons, we believe, after comparing the information furnished by Captain Mahony, with the preceding quotation, will dissent

from our conclusion, that each descent of the Deity, named Avatára by the Brahmans, is termed a Buddha by the Buddhists; and that the twenty-two Buddha of the Singhálá, are the twenty-two incarnations above specified. Our author proceeds to observe, that for the government of the present universe, four Buddha have already appeared, 'the last of whom, named Gautama Buddha, is the one whose religion now prevails in Ceylon; the fifth, Maïtri Buddha, is still to come.' But all this is entirely conformable to the opinions of the Brahmans; for, of the ten Avatára, four have already appeared in this manwantara, of whom the last is Buddha, whom they admit as the founder of the religion of Ceylon; whilst he who will precede the termination of the world is still to appear.

'Buddha, before his appearance as man, was a god, and the supreme of all the gods. At the solicitation of many of the gods, he descended on earth, and was frequently born as a man; in which character he exercised every possible virtue, by extraordinary instances of self-denial and piety.'

For the proper name Buddha, in this passage, substitute Visnu, and it forms the creed of the Brahmans universally.

'He was at length born of Mahámáyá Devi, after a pregnancy of ten months, and had for father Sudodhana Rájáh, in the country called Damba Deeva, Madda Dese, and the city of Kembulvatpooree. He lived happily with his queen Yasodera and 40,000 concubines, for thirty-one years. The six next he passed in the midst of wildernesses, qualifying himself to be a Buddha. At the close of this period, his calling became manifest to the world; and he exercised his functions as Buddha for forty-five years. He died in Cusimari Puri, at the court of Malleteh Rajah, Tuesday, the 15th of May; from which period the Buddha Sarsa, or æra of Buddha, is dated, which now (A. C. 1797) amounts to 2339 years.'

Some illustration of time and place is here requisite. For the latter, we must remark, that Damba Deeva, is a corruption of the Sanscrit word 'Jamhudwipa,' and Madda dése of 'Madya desa,' or the middle region, which comprised the country between the mountains of Imaus and the river Narmadá, vulg. Nerhudda, and in which Kicata was in fact included; since the annotator of the Bhagavat informs us that Gaya, a well known city at this day, was situated in it. If the time mentioned by Captain Mahony could be depended on, it would furnish an important æra for chronology; but 542 years before Christ seems to us not the period of Buddha's birth, but that of the establishment of his doctrines, either in Ceylon, or in the country whence they emigrated thither. In other respects, the account he furnishes of the parentage of Buddha is entirely conformable to that given in the Purana. We translate from the Agni Puraná what relates to that sectary, in the 17th chapter. Agni speaks—'I will now mention the incarna-

tion of Buddha. Formerly the gods were vanquished by the Titans, and fled to the Supreme Being, exclaiming, "Save us, save us." Assuming a deceitful form, the divinity was born son of Suddhodana. He deluded the Titans, and perverted them from the doctrine of the Veda.' The fact of Buddha's descent from Suddhodana, is further confirmed by the Magha inscription, presented by Lord Teignmouth to the Asiatic Society, and in which he is named Sácya, the word Buddha being manifestly a title, signifying sage. Now Suddhodana was a prince of the solar race, and king of Ayódhya, or Owde; but it is a remarkable circumstance, that, in all the Pauranica genealogies, Sácya is inserted as the father of Suddhodana, and not as his son. But, in whatever relation they mutually stood, their junction sufficiently marks their identity, and excludes all doubt of the Sácya, included in the pedigree of the solar race, being the founder of the doctrines which now prevail over so extensive a portion of the earth. In the Magha inscription, it is added, that he instructed Anguli in his tenets. In the Puranica genealogies, Angala is said to be son of Suddhodana;—a further corroboratition of their identity.

Our author proceeds to detail the particulars of the Singhálá faith, furnishing, in every page, a fresh confirmation of the uniformity of the doctrines of Buddha, with those of the Brahmans, in the most essential particulars. The change or corruption of the Sanscrit words, but slightly disguises the identity of the system. Inferior to Buddha (the Visnu of the Brahmans) is the Rahampatti mahá Brahmá, called Brahma Swayambkwa in the Purana. Yamor judges the souls of departed mortals; the four quarters of the world are guarded by divinities; the Gods and Titans wage constant wars; and Sacra and Viprachiti are the leaders of the hostile bands,—precisely as described in the Hindu mythology.

The most striking dissonance we have been able to discover in the two systems, is the celibacy enjoined to the priests of Buddha, and the permission or the practice of eating animal food. 'Beget and multiply,' the genial law of unsophisticated nature, is a positive precept of the Hindu code. It is true that the Bráhmana youth pass to the married, by a probatory state called Brahmachási, during which, chastity must be strictly observed. But so far as we can collect from the writers on that subject, the Buddhist priesthood continue always in that state. With regard to the slaughter of animals, it remains to be known whether it be practised in contradiction to precept, or whether the law allows it.

An extract from a Singhálá work, exhibits the legendary history of the isle; and with some remarks, which the perusal sug-

gests, we must now take our leave of Captain Mahony's interesting communication. Ceylon was originally called Lancá, the name which it bears in the Puráná. The first great war, of which the memory is preserved by tradition, was that of Rávana. The defeat and death of this king of Lancá, by Ráma, the sovereign of Ayodhya, and the eighth avatára, are sung by various Hindu poets, and constitute the theme of the Rámáyana. Now, according to the Singhálá tradition, this happened 1845 years anterior to the death of Buddha; a convincing proof that, according to the Buddhists themselves, the founder of their doctrines appeared long after the avatára of the Hindus. We have already stated our doubts respecting the æra assigned by Captain Mahony for the appearance of Buddha, viz. 542 years before Christ; but, if admitted, the result would give 2387 years anterior to the same period for the æra of Rama, King of Ayodhya, or Owde, which it not very widely different from that assigned by Sir W. Jones. We believe that the 1845 years are designed to indicate the interval between the war of Rávana, and the introduction of Buddhism into Ceylon. Indeed, the result of our chronological researches, would induce us to place Buddha considerably earlier, and Ráma somewhat later than the Singhálá traditions.

Accidental circumstances compel us, contrary to our general rule, to break off at this place the Review of this interesting Volume, which will be completed in our next Number.

Art. VII. *Tales in verse; Critical, Satirical, and Humorous.* By Thomas Holcroft. In two Volumes. London. 1806.

When a writer has arrived at a certain age in his literary life, and shown himself in repeated publications, we believe it is, in general, vain to look for much improvement in his style and powers of composition. Impressed as we were with this opinion, the remembrance of Hugh Trevor made us sit down with some eagerness to a work bearing the name of Mr Holcroft. But, however little sanguine in our expectations of improvement, we were still less prepared for the lamentable falling off that has been presented to us. Mr Holcroft, we think, might have aspired to a little originality; or, if he was determined to persevere in imitation, he might at least have imitated those authors, who are remarkable for purity of style, correctness of ideas, and chastity of design: for writers who have acquired notoriety only by peculiarity of expression, or whimsical and extravagant conceptions, should never

be regarded as models for composition. The difficulty of assuming extravagance and oddity foreign to his own character, must always be much greater to an author of any talent, than that of forming and polishing his own natural genius according to the best classic models; and since no merit of original conception can be allowed to him, the slightest falling off from his prototype, must sink him down with double the weight that would be attached to any errors arising from the indulgence of his own natural bent. In a former Number. we ventured to condemn Mr Holcroft's attempt to relate his travels in the inimitable language of Sterne; and here we find him wearily flogging and puffing through the difficult paces, in which Mr Colman and Peter Pindar have curvetted and gamboled so pleasantly. Indeed, Mr Holcroft's cumbrous pleasantry forcibly reminds us of the donkey's attempt to sport like the lap-dog,—so offensive are his frolics, and so very ponderous his levity.

The tales are not only all too long, but they are prolonged in a most artificial and tiresome manner. The incidents are mostly very few and concise; but these are so thickly intersected by egotism, reflections, and addresses of various sorts, that the reader is perpetually lost in a wilderness of episodes, that entirely hide the main road he set out upon. Then, when, after toiling through pages of inharmonious and unmeaning jingle, he at last picks out the few lines in which the tale is comprized; he finds sometimes a bald witticism or blunt jest; but more commonly the narration of some very usual occurrence, for the insipidity of which the author means to make up, by drawing from it sundry reflections and truisms, 'critical, satirical, and humorous.'

The book begins (like many others) with an attack upon reviews. We do not know whether authors have lately been gifted with a true spirit of prophecy, or whether it is only in hopes of forestalling and impoverishing us, that it has become so frequent a practice to anticipate our censures. Most productions of the day, that pretend to any degree of humour, level their first shaft at us, either in the shape of contempt, defiance, or satire; but all agree in considering our dispraise as inevitable. This is indeed a modest and just estimation of their own deserts, that is very commendable and extraordinary in the '*genus irritabile votum.*' But we must regret that this self-knowledge is so much misapplied; as it might be infinitely more profitably employed, if, instead of pointing out its own faults to the world, it would quietly betake itself to correcting them. Authors may be assured, that the amendment of their own imperfections is the very best way of disabling their reviewers; while on the other hand, if they suffer faults to disfigure their works, the public are certain to find them

out without their assistance; and their confession of them will ever be a most unneccessary exertion of candour.

The first tale is entitled, 'Authors and Critics, or the Reviewer and the Goose.' Here Mr Holcroft, in the very outset and introduction to the tale, keenly lashes us in the following sly sarcasm, and elegant lines.

'As for Reviewers, merciless as Turks,
They pick out all the faults from others' works,
Nay, more than all, that they may sell their own,
And of these faults make great display, and boast:
But, Author or Critic, he who has most,
Has never yet been fairly ask'd, or known.'

Then, again, more sportively.

'Offals the Critic calls divine;
'Tis these on which he loves to dine.
Garbage to him is toast and tea;
And filth true Sal Volatile.
His blood runs trickling through his veins,
When fetid fumes imbue his brains;
Then with delight he spends his hours;
The nauseous most he most devours.
Like fee, faw, fum,
Behold him come!
I smell a fault, is his device;
And every blunder is a feast of price.'

Thus he goes skirmishing on through the introduction for six pages, till at length the tale itself opens a terrific broadside of humour, and the wicked wag asserts that we are actuated by mercenary views, and easily to be propitiated by a bribe. This is wittily and delicately exemplified by a writer making a present to the critic of a roast goose stuffed with guineas. We only regret that the author has neglected to inform us, why this peculiar mode of conveyance was resorted to; and what is meant to be personified by the foolish and noisy bird that was presented to the reviewer to be cut up. Indeed, we are much at a loss to account for the Author's representing as subjected to our barbarity, only such animals as are proverbial for stupidity and silliness;—as in the tale quoted, and in the following lines.

'Critics are shining lights that can't be hid,
Butchers are useful, 'Calves' are born to bleed.
This is the solemn sacrificing Priest,
And that the 'sheepish' victim of the feast.'

Is this a strong instance of the modesty, of which we above suspected modern authors?

The guineas, however, have the desired effect of blunting the reviewer's knife; and, after describing his surprize at the gift, the whole wit of which description is ingeniously compressed into a

tremendous oath, and versifying the subsequent praises which the goose obtained, Mr Holcroft begins a postscript with the following, perhaps too candid, declamation.

'Had I but common sense, the fire should purge
This tale;' &c.

However, after all his satire, Mr Holcroft, at the end of the tale, promises us a sugar plum, in case we are good boys; and tells us how well he would treat a critic to his own taste.

'A sound and liberal critic, frank and chaste,
Who makes no slip of sense, of words no waste;
Who gives no mawkish praise, no wanton thrust,
But, if severe, is well inform'd and just;
Speaks from a love of excellence, and knows
No motive but which from that passion flows;
No favours courts; nor worships golden calf;*
Nor tickles folly's ear, to make her laugh;
Nor uses means unworthy his high art;
Gifted with head well stor'd, and honest heart—
That critic I'll entreat vengeance to wreak
On me, whene'er I'm tedious, false, or weak:
That critic, oh, may he but deign to condescend!
Shall be my judge, my guide, my everlasting friend.'

With our best wishes to Mr Holcroft, that, if he does meet such a critic, he may be able to bear his comments patiently, we close our remarks upon this critical tale: we guess that to be the proper epithet to be affixed to it, from the title-page,—for we are really puzzled how to appropriate the characters mentioned there.

We have not room to mention more than the titles of many tales; and must leave them to be estimated by the general character we have already suggested. They are, 'Know thyself.' The 'Origin of the Alphabet; or, Genius and Common Sense.' The 'Decline of Wit; or, the Poet's Regret.' 'Politeness; or, the Cat o'Nine Tails.'

This tale, as well as the fourth and seventh, was first given to the world in a publication, entitled the 'Wit's Magazine;' a work we never before heard of; and, from the specimens before us, we must confess it is one of the few pieces of ignorance that we really cannot lament. Of this Magazine, it seems, Mr Holcroft was editor; and sat enthroned, like another Midas, supreme judge of poetry, and dispenser of medals and prizes to literary merit. However, the proffered honours excited so little emulation in Grub-Street, that 'it was difficult to find any poems which were sent, that could plausibly be worthy of such reward,

* 'This should have been "Goose," but for the rhyme.'

except by much attention;' and accordingly, 'the task of altering devolved upon the editor.' The tale before us was versified, and sent to the Magazine, by Mr John Martin, a butcher at Mitcham in Surrey, who, we believe, having the year before exhibited a prize ox, very naturally conceived the next step to renown to be a prize poem. 'The moral of the tale was good; and as it was of a pleasant kind, Mr Holcroft willingly re-wrote the whole except two lines, which, if he remembers rightly, were the following—

'Attended by his servant Jerry,
Was trav'lling tow'rd the town of Bury.'

However, Mr Holcroft being at that time unavaricious of poetical fame, and having full power over the honours of Parnassus, to bestow as many as he pleased upon himself; or else, from admiration of Mr Martin's two lines (which are at least as easy and well written as any in the poem), generously yielded all the glory to him—

'*Si quid est gloria, tollat!*'—

Mr Martin, conscious of poetical inferiority, would not be outdone in generosity; and nobly confessed, in a letter to the editor, that the poem for which he received the medal, was no longer his, except the two lines quoted above; 'and then,' Mr Holcroft ingenuously adds, 'to confess the truth, I consider it as mine.' Why Mr Holcroft, after a lapse of three-and-twenty years, (for the Magazine was published in 1783), has begun hunting in the village, the shop, and the stall, for every fragment of literary goods, to which he could revive any antiquated claim; why he has become so rapacious of poetical distinction, as to tear these society honours from the brow of the butcher; he has given us no means of guessing. It is cruel, indeed, to transplant this miserable sprig of bay from the congenial soil of the slaughter-house at Mitcham, where, no doubt, it flourished luxuriantly, the wonder and envy of all other shopkeepers; and weekly furnished a garland to decorate the president and poet of the Free-and-Easy Club at that place; a distinction the medal might very likely obtain for its wearer. Mr Holcroft should be ashamed to mention the savage dispositions of Reviewers again. They only thin and prune the wreath that an author has woven for himself; but never forcibly attempt to wrest it from him altogether; and, however unfavourably disposed we may be to Mr Holcroft, he may be assured that we have no such uncivilized wish, as to desire to appropriate any of his poems to ourselves. What a fall will poor Mr Martin experience, should any of his brother clubbists meet with Mr Holcroft's claim to this humorous tale! The only shadow of an excuse for Mr Holcroft's barbarity is, that as

we believe this is the first time of his appearing in a substantial poetical shape, he naturally wished to prepossess the public in his favour, and dazzle the malignant eyes of criticism by a constellation of all the acquired honours that he could display around him. But, surely, the two medals that he had already adjudged to himself, for the composition of the fourth and seventh tales, would have satisfied any thing but the most extravagant ambition and love of splendour. His offer to resign the poem, should Mr Martin be desirous to maintain his claim, can only insult the feelings of that worthy poetaster, when he shall recollect that Mr Holcroft's avowal is published; that he has come forward with all the stately dignity of Virgil, and exclaimed aloud,

'*Hos ego versiculos feci, tulit alter honores.*
Sic vos non vobis,' *&c.*

The eyes of the world are opened and all that Mr Holcroft may say and swear hereafter, can never rid him of the load of having written this tale, any more than it can suffer under the light incumbrance of Mr Martin's two lines.

The next tale is the 'Owl and the Howl, or the article A, and the letter H;'—difficult to read, and very difficult to understand. The author confesses there are passages in this tale, 'which will not endure the severity of criticism.' In the same spirit, a note to the second tale owns grammar to require 'lies;' where Mr Holcroft has substituted, for the sake of rhyme, the vulgarism 'lays.' Here we must again remark, that an author's noticing his own faults, is no excuse for them. If he perceives them, why does not he alter them, instead of meanly deprecating the censure he is conscious of deserving, and the omission of which would be blameable in us? The law can allow no favour to a culprit, merely for pleading guilty.

The next are, 'the Beggars' Hats, or the Way to get rich.'—'Advice, or the Inconvenience of Renown.'—'The Progress of Greatness.'—'The King and the Shepherd;' taken from La Fontaine's fable of 'Le Berger et Le Roi,' and closely imitated in the narrative; but, like all the others, crowded with sage observations, old and new, which spring out of every part of the fable, and had been either carelessly omitted or stupidly overlooked by the original narrator. We leave our readers to judge, whether a tale related in forty-seven stanzas, which La Fontaine told in about as many lines, must necessarily be much improved.

Then comes the Arab and his Three Sons,—an Eastern tale, we are told in the preface; in which an old Arab, rather given to prosing (from his conduct and conversation, a suppresser of vice, we presume, in his own country) first lectures his three sons upon their leaving him to seek their fortunes, and then, upon their return

twenty years afterwards, lectures them again upon their separate exploits. The first, a soldier, tells a commonplace story of battles and rebellions. The second, a cadi, spoils a very ludicrous groundwork of a tale, by bad verses, and pointless expression. The third most arrogantly professes himself a poet, and, as the author says,

> 'By colour, shade, and secret sympathy,
> Agate or ruby, he could bring in play,
> And make them stutter charming repartee,
> To all that allegoric flow'r could say.'

He ought to have had a severe rebuke, indeed, for writing such a vulgar line as

> 'In thee what contrāries unite!'

In the next tale, entitled, 'Taste,' Mr Holcroft seizes the flail of satire, and belabours to the right and left, with no moderation, several living characters, that flourish among the topics of the present day. We should have thought that the precipitate downfal of Miss Mudie would have disarmed the most zealous advocate for grown actors, of all acrimony against her individually. The public conduct, in regard to her, at least deserves no censure; and it would have been more prudent to have left her to the oblivion into which she was hurled, than by reviving any mention of her, to give her approvers an opportunity of again promulgating their opinions with a chance of being heard.

We suppose, from the preface, that most of the remarks on Mr Betty were written some twenty months ago, when the admiration of him was yet frantic; when whist and scandal were banished from assemblies by puss in the corner, and recitations of Shakespeare; when the parliament was deserted for the playhouse; and peers and statesmen retired to their country-seats to recreate themselves at marbles with this condescending prodigy. Mr Holcroft should recollect, that the fever is only just tranquillized; and any violent application may disturb the brain, yet weak from disease, and again embody all the fantastic ideas lightheadedness can create. It is not the office of the satirist to hold up to contempt what has been forgotten, and is no longer offensive. The wicked and powerful may dread the immortality to which they are condemned by a well-written and deserved satire; but that immortality is a favour, when conferred upon insignificance or folly. However, we suppose Mr Holcroft's knowledge of his own poetical faults and deficiencies, liberated him from any apprehension of squandering renown upon the undeserving; nor can we differ from so well founded an opinion.

The chief battery of satire is opened in the Introduction, and maintains its fire through the whole tale against Mr Hope, the

great modern Scriblerus of architecture and upholstery. 'To enter fully upon this subject would,' as Mr Holcroft says, 'lead into a long disquisition on the principles of taste, with its relations to utility, of which a short preface cannot admit,'—nor, we must add, the limits of a review. But we conceive, that the union in one house of all the distempered fancies of every savage nation, with the classic beauties of civilized genius, can only present a chaos of barbarism; to furnish the vulgar and illiterate with means of incumbering the scientific professor, and misemploying those efforts of ability, which might otherwise cultivate and promote the designs of true taste. The tale might have been more entertaining and deservedly severe, had it delineated the unpleasant embarrassment which ensues to any quietly disposed man, who expects to find comfort, or even possibility of living in a room and furniture 'bedeviled' by taste. As a country squire was already upon the canvas, a very ludicrous picture might have been sketched; of his surprize at being seated on a lyre instead of a chair; or his disconcertment at finding no ink, till he is directed to dip his pen into the tail of a 'gormagon;' or his start of horror, when he wishes to warm himself, at perceiving a winged griffin sentinel at the fire-place, and ready to fix his brazen claws into any part of his body that may be appropinquated. This rich strain has only been slightly and faintly touched upon in the following lines.

> 'The lady would have drawn a chair,
> But he, with quick polite excuse,
> Exclaim'd—"Dear Ma'am, they will not move;
> This is screw'd down, that 's in a groove:
> They 're made for show, and not for use."

The notes quote, in support of the satire, several extracts from Mr Hope's letter to Francis Annesley M.P., which undoubtedly breathe a strong odour of conceit and pedantry. Mr Holcroft, however, should have perused his own work at least once more, before he so openly accused Mr Hope of the disgusting 'iteration of I, I, I.' If egotism is ever allowable, it certainly must be in an epistolary pamphlet, written professedly to state the author's own opinions and designs. Mr Hope, however, is only accused of being a *Cerberus* in egotism; while Mr Holcroft exceeds him by one; and four times begins his tale by introducing himself to the reader, and kindly letting him into several traits and anecdotes of himself, besides sundry opinions, reflections, and meditations, all directly imported by the author *in propriâ personâ*. Indeed, we know not what private affairs we might gain the knowledge of, if we terrible reviewers did not continually break in upon the author's agreeable contemplation of himself,

We seem to haunt this poor poet, in as terrific shapes as ever tormented the most guilty conscience. A visionary reviewer sits as heavy upon his breast as the incubus which Mr Colman says was always placed there,

'Making unseemly faces at Sir Thomas.'

His remarks upon this indelectable attendant furnish not only the introductions to the tales, but sometimes the tale itself, nay, and the postscript besides. Any fault or defect is perpetually made up for, by a note of abuse upon this grinning familiar; and, in the eighth tale, he is so afraid of the sarcasms of his visionary censor upon the omission of a rhyme, that he gives him six in a note as a peace-offering.

The last tale, entitled 'Innovation,' bestows some just praise upon those tyrants over the passions, Mrs Jordan and Mrs Siddons, and again mercilessly assaults the weak and imbecile Master Betty.

Upon the whole, as we do not recollect Mr Holcroft before in a poetical shape, and do recollect him with pleasure in some others, we must advise him, ere he be too far involved in the concerns of the house, to withdraw his name from the firm of 'Parnasse and Co.,' as he wittily writes. His poetry abounds with uncouth rhymes. 'God and blood. Go and brow. Flown and gone. Silent and vi'lent;'—and with unmetrical and inharmonious lines, such as

'A tyrant, I forget his name,
'Twas not Phalaris, tho' much like him.'

'But, author or critic, he who has most.'

'To vindicate the taste o' the age.'

'like as a tweak
O' th' nose will quell a clamorous bully.'

The frequent license of omitting the article, can, we should think, only arise from a mistaken, though general idea, that easy poetry, means poetry easy to be written. For it gives a most cramp and stiff appearance to the passages in which it is used. As in

—'Fear of approbation trickles
Down beggar's cheek, when self-love tickles,
As fast, and with as warm delight,
As down the cheek of Earl or Knight.
We soon shall see, on door and wall,
Our wonder, or contempt, to call:
Or sign for shop that sells shalloon;
Like Roscius, or air-puff'd balloon:
Hops into note, like Kangaroo.'

Nor can we subscribe to the bald device of inventing proper names for the sake of the rhyme, of which Mr Holcroft is so prolific. Thus, in the first tale, which is levelled at reviews, when 'floggings' occurred to the author, he chuckled over it as an excellent word, and just fit for the purpose; and therefore a reviewer, of the name of 'Scoggins,' was immediately manufactured to sanction its being pointedly placed at the end of a line. And in the last tale, when the country family are taken to see the tragedy of Douglas, they opportunely meet a cousin *Dorval* in the street, who obligingly accompanies them to the theatre, for the purpose of accommodating them with a rhyme to *Norval.*

In the names of living persons who are mentioned, Mr Holcroft is peculiarly unlucky. Peter Pindar, and others whom Mr Holcroft has copied, have often, by joining a ludicrous compound rhyme, made a common name pass for a good joke. Both Betty and Hope are too easily answered by a like sound, to admit of any such display of ingenuity; while, on the other hand, Annesley and Malthus are too untractable for Mr Holcroft to fit them with any assimilated jingle. These are all faults that may be avoided by care, or amended by experience. But we principally ground our unfavourable opinion of Mr Holcroft's case, upon the general dulness, and want of fancy and point, that deadens every tale. When an author, by borrowing every thing, confesses want of originality; when he spoils too, all he borrows; when, by every trick he can devise, he seeks to arrest remark, and blunt the censure upon those faults, his avowed knowledge of which argues his inability to correct them; we must consider it as a hopeless symptom of debility in the walk he has attempted. However, we think, when Mr Holcroft puts off the fantastic garb of imitated irregularity, and condescends to legitimate metre, his productions are at least more to be endured. We quote the following stanzas, from the fourth tale, 'The Decline of Wit,' as a very favourable specimen, by which to estimate Mr Holcroft as a bard.

'Wit once was known a blithesome boy,
A rosy youth right full of glee;
The cot or palace was his own,
Where none so welcome was as he.
Behind his back a budget fraught
With many a trick and many a tale
He lightly bore, with jocund heart,
And sung adown the flowery dale.
The "pleasaunce" of his pearly cheeks,
His glances shot on every side;
His skips and bounds, and frolic leaps,
Bespoke a heart that care defied.

'Mong high-born dames, and ladies fair,
And lords and earls, and barons bold,
More welcome he than April suns,
His geer more precious far than gold.
Sometimes he called himself a bard,
And then of strifeful combats sung;
Sometimes a minstrel, and his harp
With some old legend loudly rung.
And then, anon, a Troubadour,
To love he tun'd his voice so sweet,
Till souls have melted at his song,
And lords have died at ladies' feet.
If he in playful mood were seen,
Infants would in his bosom creep;
Or if some tragic tale he told,
The roughest warrior there would weep.'

We must now take our leave of Mr Holcroft, assuring him that we wish it had been in our power, consistently with truth, to disappoint his expectations of censure; for the tales all breathe that liberality of sentiment and enlarged philanthropy, that has ever appeared in the works of this author. We regret, however, that enthusiasm has hurried him into the unjustifiable lines upon Mr Malthus, in the last tale, in which he joins his name with that of the detestable tyrant of France, and seems to assert, that the theory of this learned Professor would justify all the crimes and rapacity of this scourge of modern Europe. Research after truth should never be discouraged, and least of all by ribaldry unfounded upon argument. The thorough knowledge of existing evils is the best beginning to the consideration of the means of destroying or lessening them. He who discovers them deserves more praise, the more unpleasant the subject is that he has the hardihood to investigate; and his merits should be estimated according to the truth, and not the popularity of the maxims that he is bold enough to promulgate.

Art. VIII. *An Essay on the Principles of Commercial Exchanges, and more particularly of the Exchange between Great Britain and Ireland, &c.* By John Leslie Foster, Esq. of Lincoln's Inn. 8vo. pp. 224. London, 1804. Hatchard.

The general principles of exchange appear to us to have been already very satisfactorily elucidated. Besides the incidental illustrations which the subject has received from various writers, it has been fully explained by Dr Smith, whose reasonings have been very successfully confirmed, and still further illustrated by

Lord King; so that, in our apprehension, nothing further remained to be done by succeeding writers than to point out, from a wider survey of facts, the invariable coincidence which exists on this subject between the sound conclusions of principle, and the results of experience.

We are by no means disposed to qualify this opinion, from a perusal of the performance before us. It contains, indeed, the common theory of exchange, which the author has occasionally confirmed by a few interesting facts, but which he has more frequently incumbered with superfluous illustration. A considerable portion of his work is occupied with extraneous discussions, in which, although he sometimes displays ingenuity and acuteness, we cannot, with any regard to justice, award to him the higher praise of accurate or original thinking. There is not, we believe, a greater obstacle to the progress of true science, than the blind partiality which the mind naturally feels for its own rash conclusions; and it is truly melancholy to observe, how implicitly even men of judgment and talents believe in the truth and importance of their own erroneous theories, and with how much misguided zeal they plead the cause of the most obvious errors, while their faculties seem to be absolutely bound up by the charm of a favourite paradox. Like many of those unsuccessful candidates for the fame of original discovery, Mr Foster has bewildered himself with the most chimerical and unfounded notions; and so far is he from even doubting of the truth of those positions, which are the groundwork of his speculations, or from suspecting that they require to be supported by any sort of proofs, that when he recurs to them, it is not so much for the purpose of trying their solidity, or of pruning their extravagances, as of branching them out into more extensive errors. The fallacies, however, which are interspersed throughout the whole of his performance, are not to be detected by a superficial perusal: His reasonings are so dark and perplexed, and his language so extremely obscure, that we have sometimes found it impossible to understand his statements; and, after various fruitless attempts, we have been at length forced to abandon them in despair. Even where we have been more fortunate, we were surprised, after toiling through a most elaborate process of reasoning, by the discovery of very obvious positions, of which we dare venture to affirm that we should very quickly have recognized the truth, had it not been clouded by Mr Foster's demonstrations. In surveying the progress of scientific discovery, it is most interesting and instructive to consider, on what simple combinations, truths, the most important and the most remote from the range of ordinary conceptions, frequently depend. It seems, indeed, to be one of the peculiar attributes of

genius, to render the most easy and natural means subservient to the accomplishment of its grandest designs. On this ground, as much as on any other, we should be inclined to rest the fame of Dr Smith. His statements are unfolded with such admirable clearness; the various steps of his argument are so skilfully arranged, and so happily combined, that, instead of toiling through a labyrinth of mysterious and unintelligible reasonings for doubtful results, we are surprised and delighted, both by the discovery of the most important conclusions, and by the extreme simplicity of the process by which they have been brought to light. Mr Foster does not seem to be endowed with the happy faculty of communicating clearness to discussions in any degree intricate or obscure; on the contrary, his talents are rather employed either in darkening very obvious positions, or in loading them with useless explanation. His genius seems, indeed, to vibrate between these two opposite extremes, unless where it is drawn aside by the irresistible attraction of a paradox. Although such appears to us to be the general character of Mr Foster's work, we are by no means disposed to deny that he occasionally displays talents, which, if they were more cautiously exerted, might be successfully employed in the cause of science.

The object which Mr Foster has in view in the commencement of his work, is to point out the distinction which exists between a *balance of trade*, and what he terms a *balance of debt*. By the *balance of trade*, he would be understood to mean nothing more than an excess of exports above imports; by the *balance of debt*, we suppose he must mean (for his definition is not very clear or accurate), the debt which is due from one country to another, on the whole of their mutual transactions, and which can be discharged in no other way than by a pecuniary remittance. It is impossible, in his opinion, to draw any certain conclusion from the balance of trade, respecting the amount of this debt, because the balance of money to be paid or received, does by no means correspond with the excess, either of imports or exports; and although the balance of trade may continue permanently favourable or unfavourable to any nation, yet no country can long continue in the receipt of a greater pecuniary balance than what is sufficient to answer its demands for plate and circulating coin.

Mr Foster, after having, we think very needlessly, laboured to demonstrate the truth of this last position, proceeds to illustrate his opinion respecting the balance of trade, by a reference to the accounts of British exports and imports. It appears from the Customhouse books, which, though not perfectly correct, yet furnish an approximation to the truth, that the excess of British exports above imports, calculated at their official value, amounted,

during the last century, to 348 millions Sterling. As it is impossible to believe that this balance could have been paid in the precious metals, Mr Foster very naturally supposes that it must have been employed in the discharge of our foreign expenditure; and that, had it not been for that expenditure, such an excess of exports could not have existed. This opinion, Mr Foster confirms, by a reference to facts. For the eight years of peace which preceded the last war, the balance of trade in favour of Great Britain, calculated at its official value, amounted to 13,685,746*l.* During the eight years of war which succeeded, it amounted to 46,905,169*l.* The exports were also principally increased to those countries where the expenditure took place. From all these facts, Mr Foster concludes, that 'if the exports to all the world could be added to the amount of specie exported, they would be found equal to the amount of imports and of foreign expenditure.'

Lord King has accounted in a different way for the permanent excess of British exports.

He supposes that the trade to the East Indies, which cannot be advantageously carried on, except by the exportation of silver, puts us under the necessity of maintaining a favourable balance with the Continent of Europe; by which, alone, the quantity of silver necessary for this purpose can be procured. According to his hypothesis, there is a constant influx of the precious metals into Britain, occasioned by a favourable balance of trade; and it is principally in the reexportation of this superfluous specie, that the great gain of the Indian commerce consists. In one quarter of the world, therefore, our exports must always exceed our imports, and in another, our imports must exceed our exports; but, on the aggregate amount of our commercial transactions, our exports and imports must exactly balance each other.

In framing his hypothesis, it is evident that Lord King has overlooked the necessary connexion which exists between an excess of exports and a great foreign expenditure; and it is on this ground that we think Mr Foster successfully controverts his opinion. The mode in which every opulent nation defrays a heavy foreign expenditure, is very perspicuously pointed out by Dr Smith. The exportation of the plate, or of the circulating coin, would obviously be a very ineffectual expedient for this purpose. Even the bullion which usually circulates between different countries, and which is employed in facilitating foreign exchange, would be very inadequate to the management of such unwieldy transactions. No nation, therefore, can support a heavy foreign expenditure, except by the exportation of commodities; and, for this purpose, the finer and more improved manufactures will, for

many obvious reasons, be selected in preference to the rude produce of the soil: But if, as Lord King states, our imports, on the aggregate amount of our commercial transactions, equal our exports, where is the fund from which our foreign expenses must be defrayed? It is evident, besides, that a great foreign expenditure is constantly accompanied by a sudden and an unusual excess of exports. We may farther observe, that the theory of Lord King does not satisfactorily account for the fact. It does not appear to us, that the Indian commerce would afford an adequate outlet for such an influx of specie as must be occasioned by the very great disproportion which, it is acknowledged on all hands, exists between British exports and imports. The excess of exports, rated at their official value, amounted, it appears, in eight years, to 46,905,169*l.*, a sum evidently too great to be employed in the importation of commodities from India. The trade to the East Indies may no doubt require a constant supply of the precious metals; but if it has, on that account, an effect in producing a favourable balance of trade, its influence seems to be but inconsiderable, when compared with the operation of those more powerful causes with which it is conjoined. Although, however, we are inclined to agree with Mr Foster's reasonings on the necessary connexion between a great foreign expenditure and an excess of exports, we do not think that he has pointed out the application of these discussions to the subject of exchange. The object of Lord King in introducing into his work the subject of the balance of trade, was to prove, that Britain maintained a favourable balance with the whole continent of Europe, and, arguing from that fact, to render the proof of a depreciated currency stronger and more complete. Mr Foster, we think, has satisfactorily proved, that the excess of British exports has been in a great measure owing to the great foreign expenditure which she has been obliged to maintain. But he has not attempted to explain in what way that expenditure influences the exchange; so that the detailed exposition of this subject which he introduces into his work, does not seem in any way subservient to the main object of his inquiry. The influence of a large foreign expenditure on the internal prosperity, and on the general commerce of a country, to which he has also turned his attention, does not appear to us to be in any way connected with his subject.

With the remarks, which we cannot help thinking the best part of his performance, Mr Foster has connected a very strange and chimerical paradox. He observes, that when a nation has been compelled to discharge any part of its debts by a pecuniary remittance, the scarcity of the precious metals, which will be universally felt, will give birth to an increase of

produce and manufactures, and that a scarcity of circulating medium operates in this manner as a spur to commercial industry. Mr Foster, however, is far from thinking, that 'the greater the scarcity of circulating medium, the more effectual is the stimulus applied to industry, to produce those commodities by which alone that circulating medium can be obtained. Almost every stimulus,' he observes, 'when applied in excess, produces an effect opposite to that which follows from its being applied in moderation.' This reasoning appears to us to be perfectly vague and inconclusive; and we should certainly have expected from Mr Foster a more accurate exposition of the principle on which his hypothesis rests. He seems very desirous, indeed, to impress Mr Thornton into his service; and accordingly informs his readers, that although Mr Thornton has successfuly pointed out the bad effects of a great or sudden reduction in the circulating medium of any country; yet that it never was his intention to deny that 'a reduction of the quantity of circulating medium enhanced its value, and, by the demand that was occasioned for it, *gave existence* to those productions of industry which alone could obtain it.'

That a reduction in the quantity of circulating medium enhances its value, is a proposition which, with certain restrictions, we are not disposed to deny; but we confess that we cannot so well comprehend in what manner it can *give existence* to productions of industry, which otherwise could not have existed. The surplus produce of land and labour is undoubtedly the only source from which a great foreign expenditure can be defrayed; and it is only by increasing the value of this surplus produce, that a greater fund of exportable commodities can be provided, and that a nation can thus be enabled to support an increased burden of foreign expenses. The way in which money assists in the increase of national wealth, is by facilitating exchanges; and there does not seem to be any quality that renders it so fit for this purpose, as permanency of value; because, when its own value remains constant and unchangeable, it will evidently on that account measure more accurately and more readily the value of all other commodities. In this respect, therefore, it will be a much more convenient instrument of exchange. But every variation in the value of the currency, more particularly an increase of value arising from a reduction in its quantity, must be attended with distress and inconveniency to merchants, and must tend also to embarrass the operations of manufacturing industry; because, until the change be fully accomplished, there must be a real deficiency of circulating medium to effect the ordinary payments; and it is entirely on the pressure and distress occasioned by this deficiency, that the in-

creased value of the circulating medium is founded. It is perfectly immaterial, whether the business of circulation be performed by a greater or smaller number of bank notes; because the aggregate value of the circulating medium of a country, combined with the velocity of its circulation, and the various expedients practised for economizing its use, is not arbitrary or accidental, but is in all cases determined by the business which it is destined to perform. In whatever way the sum necessary for carrying on the circulation of any country may be expressed, its real value must preserve a steady relation to the value and frequency of the payments to be effected by it. But after it has adapted itself to the extent of its appointed employment, and after it has been found to give all possible facility to commercial exchanges, we cannot comprehend how it can be beneficial to any nation—how it can increase the surplus produce of its land and labour, to distress and embarrass those who are employed in the cultivation of its land, and in the superintendance and direction of its labour, by depriving them of any portion of that circulating medium, which is found necessary to effect their customary payments. In our opinion, Mr Foster might as well expect to increase the produce of a nation, by disordering the machinery of the manufacturer, or breaking to pieces the implements of agricultural industry; and we cannot help expressing our surprise, that a person of his acuteness should have bewildered himself with such a hopeless chimera.

Mr Foster appears to have thought that an inquiry into the effects of the foreign expenditure of Britain, would enable him more satisfactorily to explain the operation of Ireland's foreign remittances on her internal commerce and resources, although we do not perceive that, in the preceding discussions, he has disclosed any facts which tend peculiarly to illustrate the general effects of foreign expenditure. His hypothesis respecting the commercial relations of Ireland, as they are affected by her debts due to Britain, and by the remittance of the loan from that country, are even more chimerical and extravagant than his theory respecting the scarcity of circulating medium, of which we have already endeavoured to point out the fallacy. The foreign remittances of Ireland are partly employed, according to Mr Foster, in paying to the absentee proprietors of land the rents of their estates; and partly in providing for the interest of her debt payable in London. As bullion cannot be remitted for this purpose, an excess of exports must be produced adequate to the discharge of this expenditure. It is the opinion of Mr Foster, that for this excess of exports, no return of value is made to Ireland; but that both her revenue and her capital are consumed in providing a fund sufficient to defray her foreign

expenses. In opposition to those who imagine that the absence of the landed proprietor is beneficial to Ireland, because the necessity of remitting his rents necessarily causes an excess of exports, Mr Foster remarks, that 'the supporters of so strange a paradox might have observed a distinction between the exports which are exchanged for imports, and those which are to discharge the foreign expenditure of the country;—a distinction no less important than that the former are paid for, but the latter not. It is the part of England to enjoy (he observes), and of Ireland to labour. The only value that Ireland receives in return, is the permission to keep at home her circulating medium.' Combined, however, with her foreign expenditure, the expedient of raising Irish loans in England produces, according to our author, most melancholy consequences to the commerce and industry of Ireland. By providing her with a fund for the discharge of her debt, it renders unnecessary an exportation of her own produce; and, by multiplying the quantity of circulating medium beyond the demands of her commerce, it necessarily prevents the existence of all that increased produce, which the scarcity of circulating medium would otherwise have occasioned. But not only does the loan prevent an excess of exports, as it more than balances Ireland's foreign expenditure; it even causes an excess of imports:—a circumstance which draws from Mr Foster the most melancholy complaints.

In framing this hypothesis, Mr Foster evidently confounds foreign remittances with foreign expenditure; and very erroneously imagines, that the remittances of Ireland for paying the interest of her debt due in London, and her remittances of rent to her absentee landlords, operate equally as a tax on Irish industry; because, according to his theory, neither of them bring back any commercial equivalent. This error appears the more extraordinary, as Mr Foster has himself stated, that the rents of the absentee landlords are paid by means of an excess of exports over imports. But by what means would the landed proprietor get possession of Irish commodities, or, what is the same thing, of the value of Irish commodities to the amount of his rents, except by purchasing them with an adequate equivalent? That equivalent has not indeed been imported from Britain; because it has been already paid in Ireland in the produce of the landlord's estate. But it is surely not less valuable on that account, or less likely to give encouragement to Irish industry. The great commerce of every civilized society, according to Dr Smith, is that carried on between the inhabitants of the town and those of the country. The country supplies the town with the means of subsistence, and the materials of manufacture. The town repays this supply, by

sending back a part of the manufactured produce to the inhabitants of the country. The remote residence of the landlord is merely an accidental circumstance, and cannot alter the nature of this commerce. It will only render it necessary to export that portion of manufactured produce which is destined to replace his rent, and which he would otherwise have consumed at home. In some respects, indeed, it will rather assist than retard the advancement of a nation to opulence; inasmuch as that part of the rude produce of the soil, which the landed proprietor would have required for his own subsistence, and for that of his servants and retainers, will be employed in the support of industrious manufacturers. Funds must no doubt be sent from Ireland, both to provide for the interest of the debt due in London, and to pay the rents of absentees; and this accidental coincidence seems to have led Mr Foster to confound foreign remittances with foreign expenditure. The commodities exported by Ireland for the payment of her debt due in London, do not indeed produce any commercial equivalent in return; but this is not owing to the circumstance of their being sent out of the country. Although the creditors of Ireland resided in Dublin, a fund for the payment of her debt must be set apart from the annual produce of her land and labour: her debt therefore will equally operate as a check to her prosperity, whether it is paid in Dublin, or remitted to London. In the same manner, the rent of the landlord must be paid wherever he resides; but we never before heard it maintained, that no equivalent was paid for the manufactured produce for which that rent is ultimately exchanged.

The destructive consequences which, according to Mr Foster, arise from the circumstance of the Irish loan being raised in Britain, and transmitted from thence to Ireland, appear to us to be altogether imaginary. We do not mean to deny, that the loans which every government requires for the support of extraordinary expenses, and that the taxes which it is necessary to impose, in order to defray the interest of these loans, must check the natural progress of national opulence. If, however, it is necessary to provide for the exigencies of the state by a loan, and if those for whose service the loan is required, are unable, without great distress and inconvenience, to make the requisite advances, it is surely the most natural policy to levy the principal, in the first instance at least, from the overflowing resources of the richest part of the empire, and to depend, for the payment of the interest, on such taxes as it may be thought expedient to impose for that purpose. We cannot believe that the operation of transmitting property from one part of the empire to another, can be attended with such disastrous consequences. By providing a fund for dis-

charging the foreign debt of Ireland, Mr Foster imagines that the exportation of those manufactures which were sent abroad for that purpose, will be rendered totally unnecessary, and that consequently they will not be produced. But if, as our author seems to state, the commercial relations of Ireland were deranged by her debt to Britain, for which she had constantly to remit, the loan, by answering this purpose, would, we should imagine, render her trade with Britain less artificial than it was before. At any rate, it is obvious, that although it may not be necessary to export the manufactures of Ireland for the payment of her debt, Britain is still open to the importation of her commodities; and we are at a loss to conceive, what greater or more effectual encouragement can be given to the industry of any nation, than a free market for its produce. But allowing it to be true, as Mr Foster states, that in consequence of the loans for the service of Ireland being raised in Britain, a fund is thereby provided for the discharge of her debt; and that there is, on that account, no further demand for those manufactures which were exported for that purpose; Does it necessarily follow, that the labour and the capital, which had been employed in preparing those manufactures, will be extinguished, and for ever lost to Ireland? Is it impossible to change the employment of capital, or to alter the direction of labour? Although one branch of commerce decays, may not the industry and capital which it once set in motion be as beneficially exerted in more flourishing manufactures? The notions of Mr Foster on this subject really appear to us to be chimerical in the extreme; and not less so are his apprehensions that the unnatural supply of circulating medium occasioned by the loan, will more than satisfy the demand which the debt of Ireland would otherwise have occasioned, and will thus entirely counteract the beneficial effects which a scarcity of circulating medium never fails to produce on the industry of a country.

But it is chiefly from the discontinuance of this system that Mr Foster expects a consummation of all its evils. 'Ireland will then' (he observes) 'have an immense balance of debt remaining to be paid, while the loans are withdrawn which have hitherto supplied the destructive mode of making the payment. Ireland will then feel,' what at present seems to him no subject of alarm, 'that her industry has been increased in the same ratio as the demands against her have increased; and that in considering the balance of debt, she contemplates but one half of her difficulties.' If Mr Foster means to state, that the resources of Ireland are inadequate to the payment of her debts, this proposition, together with all the necessary proofs, might, we think, have been reduced to a very narrow compass. But he seems to confound the

nature and effects of national debt, with the circumstances with which, in the case of Ireland, it is accidentally conjoined. Assuming this as his foundation, he has contrived, by the help of paradoxes and doubtful facts, to patch together his flimsy and fallacious hypothesis.

Our author next proceeds to inquire, in what manner the commerce of Ireland has been affected by the Bank restriction: But we are concerned to observe, that his views on this subject are almost entirely founded on those errors which we have already endeavoured to expose. He first considers the effects which the suspension of cash payments has produced in Britain, although we do not perceive that the case of Britain presents any peculiar advantages for the discussion of this question. The great foreign expenditure of this country during the last war, operated, according to Mr Foster, as a spur to her industry, by forcing a balance of exports in her favour. It is evident, however, that whatever portion of that foreign expenditure was discharged by pecuniary remittances, a proportional diminution must have taken place in the excess of exports. The increased issue of paper which followed the Bank restriction, by almost superseding the necessity of a metallic currency, allowed great part of the specie to be exported,—diminishing, in consequence, that excess of exports which our great foreign expenditure would have otherwise occasioned, and preventing, according to our author, the existence of British produce to that amount. If the diminution of specie could have been permanent, Mr Foster thinks that the measure would have been less objectionable; but if specie must be recovered, the effect of the Bank restriction has been, 'to adjourn to one future exertion the production of those exports, which, had it not been for the restriction, would gradually have been called into existence by that portion of British labour which the restriction has prevented from existing.'

That the great expenditure of Britain gives encouragement to particular manufactures, is a fact which we by no means doubt; because particular manufactures may flourish in the general decline of national industry and wealth. But we are totally at a loss to comprehend how it can increase the general commerce of a nation, to send abroad part of the produce of its land and labour, without receiving any equivalent in return. And Mr Foster has indeed expressed the same opinion respecting an excess of exports occasioned by a great foreign expenditure. * If, however, a nation is burdened with foreign debt, and if specie can be spared from its internal circulation, it appears to us, that its exportation, so far from injuring the commerce of the country,

* See page 17.

may be even attended with peculiar advantages, whether in payment of debt already contracted, or in exchange for commodities. The smaller the quantity of specie which any nation employs in managing its pecuniary transactions, the greater will be its stock of active and productive capital. In so far, therefore, as the Bank restriction has superseded the use of specie in commercial transactions, its tendency has been to add to the annual produce of the land and labour of Britain, by increasing its stock of active capital. Even although it may be necessary, at a future period to import the specie formerly exported, still the temporary increase of capital which an exportation of specie produces, will set in motion an additional quantity of industry, the produce of which will more than enable the nation to repurchase the bullion which was formerly sent abroad. The use of money, we have already remarked, is to facilitate exchange; and it will most effectually assist the progress of national wealth, while it is allowed quietly to perform this office. It never will be either exported or imported, except to suit more exactly the purposes of commercial exchange; and we may be well assured, that it never can be prejudicial to the interests of the mercantile world, to allow it without molestation to follow the effective demand. We do not mean to defend the Bank restriction, or to maintain that it has not produced very serious inconveniences; because it appears to us, that the object of a circulating medium cannot, for many obvious reasons, be either safely or completely attained, except by means of a mixed currency. But the consequences which Mr Foster ascribes to that measure, namely, the discouragement of industry and of produce, are, in our opinion, altogether imaginary. Indeed, his whole theory on this subject, seems to be a revival, under a different form, of the absurdities of that system which connected such important effects with the importation or exportation of the specie. In applying it to the state of Ireland, Mr Foster has only repeated errors, which we have already noticed; so that it does not seem necessary to enter particularly into this part of his work.

The second chapter commences with a statement of the common theory of exchange; with which Mr Foster has connected, *ut mos est*, a paradox, which is very far from being intelligible to us. He observes, that where gold forms part of the circulating medium of a country, and where that country owes at the same time a large foreign debt, the gold must receive an artificial value, exactly proportionate to the amount of the debt, and sufficient to retain it within the country. It is by means of this artificial value, which is seen in the cheapness of commodities which ensues, and in the quantity of them that is forced into existence, more than

by the increased value of the circulating medium which remains, that the evils arising from foreign debt are redressed. As the real exchange against Ireland can never rise much above one *per cent.*, (the price of transmitting the precious metals to Britain), it can never produce, according to our author, an excess of exports sufficient for the discharge of her foreign debt.

What species of artificial value that must be, which is only perceptible when gold is compared with commodities, but which vanishes when it is compared with the circulating medium of a different country; or by what means Mr Foster can so accurately ascertain the variations in the value of gold when compared with commodities, we are at a loss to determine. According to his own principles, however, the value of gold should never rise much higher where it is scarce, than the expense of importing it from those countries where it is more abundant; and if it did rise to a higher price, we have already shown, that so far from favouring an increase of produce, every variation in the value of the circulating medium, has a tendency, by producing unspeakable inconvenience and injury to merchants and manufacturers, to frustrate, rather than assist, their efforts to increase the annual produce of the land and labour of a country. But if gold acquires an artificial value in consequence of an unfavourable balance of trade, it must undoubtedly arise from the great demand for it for the purpose of exportation. Those with whom the demand originates intend to employ it in paying their foreign debt, and it is on this account that they are willing to give a higher price for it; but it is surely eminently absurd to maintain, that this necessity of exporting it is the scource of its artificial value, and at the same time that it is by means of its artificial value, that it is retained at home. The heaviest foreign debts, it is well known, never affect very materially that stock of specie by which the internal commerce of a country is carried on; because it would be completely impracticable to provide a fund in this way for their payment. In order to raise the value of a commodity, it is not only necessary that there should be a demand; there must be, what is called, an *effectual* demand; and it is impossible that there can ever be an effectual demand for any considerable part of the specie which carries on the internal payments of a country, because the inconveniences attending its exportation would be so great, that no addition of price could counterbalance it.

But it is not necessary that a heavy foreign expenditure should be supported by the exportation of the specie employed in its internal commerce, because it is much more advantageous to purchase bullion, or to send abroad commodities for that purpose; and a country which abounds with the finer manufactures, will

never want a fund of exportable commodities for discharging its foreign debt, not only without any loss or inconvenience, but even with a profit. *

It is on this ground, chiefly, that we are inclined to think that the objection of Mr Thornton to the common theory of exchange, though extremely ingenious, is not well-founded. He observes, † that an unfavourable exchange 'will be limited to that trifling sum which it costs to transport bullion from one place to another, so long as there is bullion to be transported.' But when the bullion, which a country can spare out of the stock reserved for internal circulation, is totally insufficient to liquidate the demands of its foreign debt, then Mr Thornton seems to imagine that an unfavourable exchange may pass the limit to which in other circumstances it could be confined. It is obvious, however, that if a nation owes foreign debt to a very large amount, it must be discharged, either by means of specie or of commodities. As its own stock of specie must be generally insufficient for this purpose, it must endeavour to get possession of a portion of that bullion which is employed in effecting exchanges between different countries, and which Dr Smith has very properly denominated the money of the great mercantile republic. This purpose must be accomplished by an exportation of its manufactured products; and the bullion so procured will be sent to the country to which the debt is owing, where it will be very soon reexported in exchange for commodities, as it will be obviously superfluous for the purposes of its internal commerce. The money of the great mercantile republic must be always to be had for commodities, because it can be procured in no other way; and if it could not be always provided in sufficient abundance, to answer the demands of commerce by those who have wherewithal to purchase it, it would be insufficient for the business it is required to perform; its value therefore would rise, until the increase rendered it perfectly adequate to the fulfilment of all its necessary functions. Even although bullion, therefore, were absolutely necessary in all cases for the discharge of foreign debt, as it can be always purchased for its value, it seems impossible that the real exchange should ever rise beyond the expense of transporting gold from those countries where it is abundant, to those countries where it is scarce. But as bullion must be purchased by commodities, and as it must be immediately reexported from the country to which it is sent in payment of a debt, and must bring back commodities in return, it is obviously much more convenient, and more profitable, to send commodities directly from the debtor to the creditor country, than to adopt such a cumbrous and circui-

* See Wealth of Nations, Vol. II. p. 161. † P. 123.

tous mode of payment; and a commercial and manufacturing nation can never have any difficulty in providing a stock of commodities suited to the wants of any country.

Although it is impossible, according to our author's theory, precisely to determine the time in which foreign debt will produce exports to a sufficient amount for its discharge, yet he imagines that certain limits, both with respect to time and amount, may be fixed, beyond which a real exchange cannot rise. In Ireland, he thinks that it has exceeded those limits, and that therefore it must be sought for in other cases. We do not understand on what principle Mr Foster can assign any particular time for the continuance of an unfavourable exchange. The state of the exchange must entirely depend on the nature of the commerce carried on between different countries; and we can see no reason why the real exchange may not continue permanently unfavourable to any particular country. Mr Foster's arguments have been hitherto founded on the supposition that the burden of foreign remittances lay on Ireland: he now proceeds to show, however, from an account of the reciprocal debts and credits of the two countries, that the loan from Britain more than counterbalances the remittances of Ireland for her absentees. It does not appear to us, however, that any great reliance can be placed on the accuracy of the statements on which his conclusions are founded. We have very little faith in the facts which are furnished by political arithmetic, except where they are very strongly attested.

The third chapter of Mr Foster's work is principally occupied in pointing out in what manner a variation in the value of the currency of a nation affects the exchange. On this subject, he is remarkably tedious and uninteresting, more particularly as the subject had been already explained with so much neatness and elegance by Lord King. He remarks a mistake, however, into which Mr Thornton has fallen, respecting the policy of imposing a seignorage on the coin for the purpose of preventing its exportation.

It is obvious indeed, we think, that Mr Thornton has very strangely misunderstood the whole of Dr Smith's reasonings relative to the coin; and as the subject is in a high degree important, we shall endeavour to exhibit a short and connected view of Dr Smith's opinions, which appear to us so clear and undeniable in themselves, and to be so perspicuously explained by their illustrious author, that we are astonished they should ever have been misapprehended.

It is evident, that where the expense of coinage is defrayed by the government, the value of gold in coin can never greatly exceed its value in bullion. An occasional rise, therefore, in the

market price of gold, or an unfavourable balance of trade, may render it profitable either to melt down the coin, or to export it. In order to obviate these inconveniences, Dr Smith proposes that a small duty should be imposed on the coinage, which, by rendering gold more valuable in coin than in bullion, would prevent its being melted down, and would also discourage exportation.

There are also other defects incident to a metallic currency, which a seignorage would remedy. In every country, the coin, by being rubbed and worn, gradually degenerates from its original standard, and contains a smaller quantity of metal than when it was at first issued from the mint. In that case, it is evident, that if it required a certain number of pieces, perfect in their standard weight, to purchase a pound of gold, the same number will not be sufficient for this purpose when they have lost part of their weight. In Britain, a pound weight of gold is coined into forty-four guineas and a half, which, when perfect in their standard weight, are seldom worth much more than a pound weight of bullion; because he who possesses a pound weight of uncoined gold or silver in Britain, can, by going to the mint, and waiting a few weeks, procure an equal quantity of those metals in coin. The gold coin of Britain, before its reformation in 1774, had lost two per cent. of its standard weight. But if forty-four guineas and a half, containing their full standard weight, could purchase very little more than a pound weight of uncoined gold, forty-four guineas and a half, wanting part of their weight, could not purchase a pound weight, and something must be added to supply the deficiency. Accordingly, the market price of gold in Britain, before the reformation of the gold coin in 1774, instead of being the same with the mint price, 46*l.* 14s. 6d., was 47*l.* 14s., and sometimes 48*l.* 'When the greater part of the coin, however,' Dr Smith observes, 'was in this degenerate condition, 44½ guineas fresh from the mint, would purchase no more goods in the market than any other ordinary guineas; because, when they came into the coffers of the merchant, being confounded with other money, they could not afterwards be distinguished without more trouble than the difference was worth.' Like other guineas, they were worth only 46*l.* 14s. 6d. If melted down, however, they produced a pound weight of gold, which could be sold for 47*l.* 14s. or 48*l.* It is evident, however, that the profit of the melters must be diminished exactly by the amount of the seignorage imposed. If five per cent. were charged for the coinage, and the coin were degenerated two per cent. below its standard weight, there would evidently be a loss of three per cent. even in melting down the heaviest pieces. As coin is, besides, required for the purposes of commerce, there does

does not appear to be any sound reason why the full value should not be charged for it, as well as for any other commodity. That value is partly made up of the materials, and partly of the workmanship. To charge nothing for the expense of the workmanship, is as absurd as to give away part of the materials; it degrades the coin below what it is really worth. It is besides very certain, that if the business had continued in the hands of private persons, they could not have undertaken the trouble of weighing, assaying, and coining the metals, without making a corresponding charge. Nor would it have been necessary; because those who wanted coin must have paid for the trouble and expense of manufacturing it into the form best adapted to their purposes, in the same manner as they pay for the manufacturing of gold and silver plate.

All this appears to us so clear and evident, that we are surprised that Mr Thornton should attempt to controvert it. He seems however to maintain, that because plate is not bought, in general, with a view to be sold again, the price paid by the original purchaser may not unfairly be considered at all times as the current price of the article; but money being sold, or exchanged for commodities again and again, what we mean by its current price is, that price at which it passes, not in the original bargain between the seller and the purchaser, but in the general course of subsequent circulation. * Allowing this statement to be correct, so far as relates to the use of these words, we do not perceive that it warrants the inference which Mr Thornton means to found on it, namely, that the expense of workmanship cannot be considered as forming a part of the value of coin, as well as of plate. Plate is no doubt bought, like every other commodity, for its current price; that price is made up partly of the materials and partly of the workmanship; and as they vary in their value, the current price of plate must vary also. Although the first purchaser does not mean to part with it, this circumstance does by no means imply, that plate always retains the price at which it was originally purchased. When we speak of the current price of plate or of money, we commonly mean the price at which each of those commodities can be purchased at the time in which we are speaking. But although plate may remain for years in the hands of the person who purchases it, this by no means exempts it from subsequent variations of value; nor does the constant circulation of money render its value more variable than that of any other commodity. There can be no doubt, that, if government chose to defray the expense of manufacturing gold and silver plate, this circumstance

* p. 207. 208.

would reduce the price of these commodities. At present, those who require these luxuries must pay for the workmanship as well as for the materials. In the same manner, they would be obliged to pay for the manufacture of the coin, if it were not afforded them for nothing; and whatever variations of value might afterwards take place, the original expense of workmanship would always form a component part of the price.

But Mr Thornton also observes, that our coin is liable to be sent abroad, and that foreigners will not allow any thing for the workmanship. Undoubtedly not; and this is precisely the reason why a seignorage discourages exportation; because the exporter loses the whole value of the workmanship. According to Mr Thornton, however, the price of our coin abroad determines its price at home; because, in the case of a high price abroad, the directors of the bank diminish their issues of paper, and by that means raise its value, and, along with it, the value of the current coin of the kingdom. It has no doubt been supposed possible, where a metallic currency has been almost entirely supplanted by a paper circulation, artificially to raise the price of coin for a time, by diminishing the issues of paper. But it ought to be recollected, that a paper currency possesses value only as it represents a certain quantity of the precious metals; and that, though it may be possible to raise its value above that of the original standard, and, along with it, that of the small portion of coin, without which a paper currency cannot subsist, yet this rise must be temporary; because the permanent value of coin depends on the value of bullion, not in any particular country, but in the general market of Europe. The influence, therefore, of a limited or excessive issue of paper on the value of the coin, seems to be extremely confined. But although it were true that coin occasionally derived an additional value from a diminution of the quantity of paper in circulation, it does not follow that this cause would at all exclude the operation of other causes in raising its value. A seignorage, though combined with other causes, would still produce its effect. We have been induced to make these observations, because we conceive that the imposition of a seignorage is indispensable in every sound system of coinage, and because Mr Thornton, in disapproving of this expedient for the preservation of the coin, has, in our opinion, totally misconceived its principle.

As coin may receive any accession of value from the imposition of a seignorage, Mr Foster proceeds to show, that its value may be depreciated, either from losing part of its weight, or from adulteration. He next examines the nature of a paper currency, and points out in what manner it may be affected by discredit or excess. It is obvious that discredit must diminish its value, and

stop its circulation; and it is equally clear, that, where the paper circulation of a country is increased, without any corresponding increase in the demands of its commerce, no part of what is added can find employment, until, by its depreciation, the quantity of currency is rendered substantially the same as before.

Mr Foster follows the opinion of Mr Hume, in maintaining, that a considerable time must elapse before an addition to the currency of a country produces its full effect; and that the interval between its increase, and before its depreciation is completed, must be favourable to industry, because the additional quantity of currency will enable those, into whose possession it comes, to employ a greater number of manufacturers than before. Mr Foster also adds, that the degree of depreciation will not bear an exact proportion to the addition made to the circulating medium, because part of it will be employed in keeping in motion that increase of industry which it will have produced. It is evident, however, that an increase of industry cannot be supported, except a corresponding increase of the materials on which industry is exerted, be previously provided. But, by Mr Hume's hypothesis, there is no increase except in the quantity of gold or silver. If those, therefore, who are in possession of this increased quantity of the precious metals, employ a greater number of manufacturers, they must draw them from other employments; and if they provide an additional quantity of materials, they must be taken from the stock by which other manufactures are maintained. This cannot be effected, however, without producing an increased demand for labour and for commodities, which will exactly keep pace with the quantity of new specie sent into circulation, and will continue until, by depreciation, the aggregate value of the currency is rendered the same as before. If an additional quantity of coin could be once sent into circulation, without being depreciated, there is no reason why it should not permanently maintain its value.

On these grounds, therefore, an undue increase of currency appears to us to produce immediate depreciation, without any benefit whatever. There does not seem to be any property so essentially necessary to a circulating medium, as permanency of value: this property, it never can possess, unless its increase gradually follow the growing demands of commerce. The opinion, therefore, of Mr Foster, that 'there is a happy mean between a very small and a very immoderate increase, which, while it encourages industry, does not give rise to depreciation,' seems to be wholly without foundation. As to the inconveniences arising from the use of a circulating medium, not immediately convertible into specie, on which our author treats at great

length, we have already very fully explained our opinion in our examination of Lord King's work: we shall not at present, therefore, detain our readers by a discussion of that subject. Mr Foster has, however, successfully controverted a notion which we have sometimes heard urged in defence of an increased issue of paper, namely, that a paper currency cannot be depreciated while it is constantly demanded, and while it is never issued but on unexceptionable security. If this were true, it is evident that the value of specie could never be diminished from increase of quantity, because it will be constantly demanded: as it is the medium of commercial intercourse, merchants will be always anxious to exchange their commodities for it at its full value. But it by no means follows, that that value does not vary according as the established proportion between the supply and the demand is altered, even while the security remains unexceptionable. Excess, however, when applied to specie, is merely a relative term: it is not so when it is applied to a currency, which derives its value entirely from specie, and is only so far perfect as it accurately represents that quantity of specie for which it is meant to pass. If the quantity of paper circulating in any country exceeds the quantity of specie which the demands of that country would have required, had there been no paper money, and had its commerce been the same, it must in that case fall below the original standard of its value; because, while the value of the specie and the commerce of the country remains the same, a certain quantity of currency is required to transact its payments, and no more can be employed. If a greater quantity of specie is sent into circulation, whatever is superfluous will be exported. Paper currency, however, cannot be exported: whatever is issued, therefore, beyond the demands of commerce, must necessarily lead to a general depreciation. The paper, in that case, will not be worth the quantity of gold which it is intended to represent. It is evidently impossible that an excess of issue can take place, without producing this effect.

Mr Foster proceeds, in the fourth chapter of his work, to show, by a reference to facts, that the currency of Britain, and more particularly that of Ireland, is depreciated through excess of issue; and he enumerates the following symptoms of depreciation, which the currency of Ireland has continued permanently to exhibit: 1. An open discount on paper when exchanged for coin: 2. An exchange unfavourable when remittances are made in bank notes; but favourable when paid in specie: 3. A constant excess of the market price above the mint price of bullion: 4. An entire disappearance of the smaller coin, which, from the degradation of the higher currency, it has become profitable to melt down.

Of these four circumstances, the first and second appear to us to be completely conclusive, as to the fact of the actual depreciation of the *paper* currency of Ireland. The third unquestionably seems to indicate a similar depreciation in the coin; and Mr Foster accordingly classes them together, as concurrent evidence of the depreciation of the whole currency. To us, however, we will confess that this part of the subject appears to be attended with a difficulty which Mr Foster has neither felt nor removed. If the paper be depreciated below the coin, it seems evident that these two instruments of circulation have lost their connexion and dependence on each other; and it is not very conceivable how the state of the one should afterwards operate at all as a means of depreciating or enhancing the other. When the paper, in consequence of its excessive multiplication, has become comparatively cheap and worthless, and when a larger quantity of it is required in exchange for gold, as well as for other commodities, it is plain that its value is no longer measured by that of gold; and, of course, that gold cannot be sunk in value, any more than any other commodity, by its multiplication. Upon this subject, indeed, we have always been inclined to go somewhat farther than most of those who have speculated on this subject, and to maintain, not only, as in the present case, that where the paper currency has been separated from the coin, by being depreciated below it, the value of the coin cannot be affected by any increase or further depreciation of the paper; but also that, so long as the paper and coin continue at par, there is no multiplication of the former, by which the value of the whole currency can be affected.

This latter proposition we ground upon the simple consideration, that there is no imaginable motive to induce a man to part with a guinea for less than it is confessedly worth; and that the multiplication of bank notes affords no argument at all to the holders of guineas to give them away for less than they might certainly obtain for them by leaving the notes to shift for themselves. We see every day, that when the forty-fourth part of a pound of gold will sell for more than twenty-one shillings when offered as bullion, it is immediately reduced into that form, in spite of the strictest prohibitions of the law. Now, there neither is, nor can be, any law to prohibit a man from refusing to give a guinea for a smaller quantity of any commodity, than the seller allows it to be fairly worth; and it can be nothing to either of the parties in such a bargain, that there is a paper guinea in the market at the same time, which is not worth so much. It will therefore inevitably happen, we conceive, that as soon as the paper is really depreciated, it will separate from the coin; and that, as long

as they continue at par, there can be no depreciation of the currency.

So long as a paper guinea is worth as much as a gold one, it will be quite as difficult to get paper as gold; and he who has paid the value of gold for it, will not be very much disposed to part with it for a smaller value. We have great doubts, therefore, of the possibility of an over-issue of paper in such circumstances. More notes may be engraved or filled up than there is any demand for; but unless they are to be issued, in the first instance, for less than their nominal value, we do not see clearly how their mere number can ever produce any depreciation. Though they may exist in greater numbers in the chests of the bank, they cannot be got out of these chests upon easier terms than gold might formerly have been got: though they are more numerous, they are not, in fact, either cheaper or more plentiful in the market; and all the bad consequences of the over-manufacture will be, the waste of paper and engraving.

Upon these principles, we have always been disposed to think, that the great and unquestionable decrease in the value of money, which has taken place in England and Ireland within the last twenty years, is to be accounted for, not by any circumstances connected with the state of the paper currency, but by an actual increase of the precious metals, or perhaps, in some degree, by the effects of our system of taxation. We are sensible, however, that this is a subject a great deal too difficult and momentous to be discussed incidentally in the course of our review of Mr Foster; and while we thought it right to throw out these general views, for the consideration of those to whom the subject is familiar, we do not hope to make many converts to our opinion, without a more elaborate exposition. In the mean time, we may be permitted to observe, that the excess of the market price over the mint price of gold in *both* countries, that is, the alleged depreciation of the coin, both where it is confounded with the paper money, and where it is entirely separate from it, serves to afford ground for doubting, whether the loss of value is in any case to be ascribed to the state of the paper; since it is not easy to conceive, that the value of the coin should be depressed in England because it is at par with paper, and, in Ireland, because it is of much higher value.

But, however all this may be, it cannot be necessary, upon our principles, to follow Mr Foster through the very long, elaborate, and circuitous deductions, by which he endeavours to estimate the *quantum* of depreciation of the English currency, by means of the state of exchange between that country and Ireland; and, even if we were to admit his principles, we conceive that we should be well entitled to complain of the manner in which he applies them. As a specimen of the style and manner of rea-

soning by which he labours to elucidate this dark subject, our readers may take the following proposition.

'If the Bank of England notes' (he observes) 'are depreciated, and the real exchange in favour of Ireland, the premium paid for guineas in Dublin must equal the depreciation of English paper *plus* the unfavourableness of the nominal exchange, *minus* the real exchange in favour of Ireland. Hence, by a simple equation it will appear, that if we add the premium to the real exchange, and subtract the nominal exchange from their amount, the remainder must be the depreciation of English paper.'

The whole amount of this very perplexed statement seems to be nothing more than this, that when Irish currency is exchanged for gold, the whole amount of a real exchange in favour of Ireland must be deducted from the sum necessary to compensate the depreciation of the currency. On what principle Mr Foster grounds this conclusion, we are at a loss to conceive. A real exchange in favour of Ireland with England, can only arise from the great demand which prevails, in the latter country, for currency or for value of any kind in Ireland. But how can this alter the relative value of the different currencies in which the internal commerce of Ireland is carried on? How can it raise the value of the paper currency, and not of the gold coin? There can be no greater demand in England for Irish paper, than for Irish gold, as gold will evidently answer the purpose of those who wish to remit, as well as paper. After toiling so patiently through Mr Foster's dark and perplexed statements, it is truly mortifying to discover, that they terminate in such a palpable error. His hypothesis proceeds so far on the assumption, that the premium paid for gold measures the depreciation of the currency. Now, as this measure exists equally in Britain, and as Mr Foster's object seems to be, to find out the degree of depreciation which the currency of Britain has undergone, it would surely be a much more simple operation to apply this measure directly to the British currency, which would at once produce the information which he is so desirous to obtain, and for which he labours with such perseverance through such a complex process of reasoning.

As a further proof of the depreciation of the Irish currency, Mr Foster proceeds to state, that the issues of the Bank of Ireland are now *five times* as great as when the restriction was imposed, while the issues of the Bank of England have not been quite *doubled* in that time; from which he infers, that unless the trade of Ireland has increased in the same proportion, there must have been an excess of issue. He also states, that the control which the Bank of England exercises over private bankers, is more com-

plete than that which is possessed by the Bank of Ireland, because 'the holders at present have little inducement to wish to change the note of a respectable private banker for a note of the Bank of Ireland.' It is evident, however, that as long as the paper of private bankers is convertible into Bank of Ireland notes, the Bank of Ireland must possess a complete control over the issues of private paper. As long as it is the legal standard by which the value of all other notes must be determined, it possesses a value distinct from every other species of paper currency. As the holders of any number of private notes can never make any higher demand than for the same number in Bank of Ireland currency, it is impossible that their value can ever be permanently higher than that of the medium into which they must be ultimately resolved. Neither can private paper be depreciated below that value; because, if it were multiplied beyond the demands of commerce, the excess would be returned for Bank of Ireland notes. Even if a private bank were to attempt to rival the Bank of Ireland, by issuing, within the particular precincts of its circulation, an undue quantity of currency, this might no doubt produce a depreciation both of its own notes, and those of the National Bank; but the excess would finally return upon the private bank from which it originated; because the depreciation could only be temporary and local. If it extended to the general currency of the nation, an increased issue, in order to compensate by an addition of quantity for the diminished value of the currency, would be necessary; but this could not be safely put in practice, unless a greater quantity of Bank of Ireland notes were previously provided, in order to meet the greater demands for the ultimate medium of payment, which an increased issue would necessarily occasion. A run would immediately commence, in the district where the excess of issue took place, on the private banks, for Bank of Ireland notes, which would continue until they diminished to their former amount the quantity of their notes in circulation. It appears to us, therefore, quite impracticable for any private bank to issue its notes in such a quantity as would reduce their value below that of Bank of Ireland notes.

We cannot help suspecting that there is also something of exaggeration in the account which Mr Foster gives of the disorder produced in the silver currency of Ireland; at least we do not see how a depreciation of the paper, to the extent of 10 *per cent.*, should lead to the *total disuse* of silver coins, and to a substitution of base metal or paper in their stead. Mr Foster's statements, indeed, must be frequently received with a considerable degree of caution, as they sometimes lead to conclusions that appear absolutely incredible. In pointing out those whom he considers as

gainers by the depreciation of the Irish currency, he mentions that the dealers in exchange make the most exorbitant profits; and he actually asserts, that a profit of 341*l.* may be made, by remitting 1000*l.* thirty-six times between London and Dublin, which may be done in one year. Does Mr Foster really believe, that with little trouble, and without any risk, a profit of 341*l. per annum* can be cleared on 1000*l.*? Did he ever hear of the competition of capitals? and that when the profits in one branch of commerce rise higher than the general level of profit in any country, they are very quickly reduced by the competition of capital attracted from other employments?

Towards the conclusion of his performance, Mr Foster endeavours to point out a remedy for the evils which arise from the depreciation of the Irish currency. On this subject, however, we are not aware that he has suggested any thing original or satisfactory. The true principles on which a system of paper currency ought to be founded, are indeed sufficiently obvious; but, after a manifest abuse has been so long submitted to, it is often extremely difficult to suggest a safe and practicable expedient for its removal. Were Parliament suddenly to ordain that cash payments should be resumed at the Bank of Ireland, a run would immediately commence for gold, which would continue, until, by a suitable reduction in the quantity of the currency, its former value was restored. This sudden revolution in the value of the currency could not, however, be brought about without giving a violent shock to all commercial relations, and thus producing individual distress, and even ruin, to an incalculable extent. It would undoubtedly be necessary, therefore, to prepare the way for this salutary reform, by rendering the Bank of Ireland notes, in the first instance, exchangeable for those of the Bank of England; and even this measure could not be carried into execution without a considerable degree of caution.

It is in our opinion essentially necessary to the purity of every paper currency, that it should be convertible into specie at the will of the holder. But we do not think that any prudent statesman would recommend the abolition of the Bank restriction, before the necessary measures were adopted for securing the Bank against the effects of an unfavourable exchange, combined with the still more disastrous consequences of domestic alarm. An imposition of a seignorage on the coin seems to us to be the only effectual expedient for this purpose. By preventing altogether its being melted down, it would deliver the Bank from one very serious source of annoyance; and, by discouraging the exportation, or, at least, if it were exported, by facilitating its return, it would considerably lessen the demands upon the bank for specie,

and would thus leave its directors with more ample resources to meet the dangers and difficulties to which, in a season of general consternation, they must always be exposed. A plan ought also, at the same time, to be adopted for reforming the silver currency, and for permanently securing its purity.

We cannot take our leave of this performance, without observing, that we have bestowed on it a more particular examination than its general merits might seem at first view to require. But Mr Foster's errors derive, in our opinion, a degree of adventitious importance from the subjects with which they are connected; and it appears to us to be of consequence to point out the fallacy of those vain and inconclusive theories, which, under the semblance of original discoveries, tend to mislead ordinary readers with respect to the nature and objects of political economy, and to create a prejudice against a science, particularly eminent for the certainty and practical importance of the results to which it leads.

ART. IX. *Memoirs of Dr Joseph Priestley, to the year* 1795, *written by himself: With a Continuation to the time of his decease, by his Son Joseph Priestley; and Observations on his Writings, by Thomas Cooper, President Judge of the Fourth District of Pensylvania, and the Reverend William Christie.* 8vo. pp. 481. London, 1805.

DR PRIESTLEY has written more, we believe, and on a greater variety of subjects, than any other English author; and probably believed, as his friend Mr Cooper appears to do at this moment, that his several publications were destined to make an era in the respective branches of speculation to which they bore reference. We are not exactly of that opinion: but we think Dr Priestley a person of no common magnitude in the history of English literature, and have perused this miscellaneous volume with more interest than we have usually found excited by publications of the same description. The memoirs are written with great conciseness and simplicity, and present a very singular picture of that indefatigable activity, that bigotted vanity, that precipitation, cheerfulness, and sincerity, which made up the character of this restless philosopher. The observations annexed by Mr Cooper are the work, we think, of a powerful, presumptuous, and untractable understanding. They are written in a defying, dogmatical, unaccommodating style; with much force of reasoning for the most part, but often with great rashness and

arrogance; and occasionally with a cant of philosophism, and a tang of party politics, which communicate an air of vulgarity to the whole work, and irresistibly excite a smile at the expense of this magnanimous despiser of all sorts of prejudice and bigotry.

Dr Priestley was a religious teacher from early habit, from conscientious persuasion of duty, and from unaffected zeal and affection for the vocation. He was a philosopher only by accident, for pastime, and from the unconquerable restlessness of his understanding. His profession and business in life was that of a spiritual pastor; his other occupations were all occasional relaxations: and he has himself assured us, that he only valued the reputation which they enabled him to acquire, as it might give greater weight and authority to his peculiar views of Christianity. We do not see the least reason to question the sincerity of his faith, or of the conviction he always professed of its importance to mankind; but we are persuaded, that his religious zeal was the fruit rather of early habits and impressions, than of his later convictions; and cannot help considering it as an extraordinary spectacle, to see that ardour for devotional exercises, which was nursed in the bosom of the most rigorous Calvinism, still surviving and maintaining its influence over a mind that had abandoned all the original objects of its veneration. Dr Priestley, after he had abjured the Holy Ghost, and satisfied himself that Jesus Christ was nothing more than a man; that the scriptural writers were no more inspired than himself; and that the soul of man had no existence; retained the same devout passion for preaching, praying, and catechising, which he acquired while he believed in the Trinity and the immateriality of the sentient principle of his nature. It will appear, however, from the following short sketch of his life, that his early impressions were very profound and serious; and that his transformation was gradual, and accompanied by a spirit of controversy and proselytism, which kept his original ardour in constant and beneficial exercise.

He was the son of a Yorkshire clothier, who prayed morning and evening with his family, taught his children the Assembly's Catechism, and, having been bred a Calvinist, took at last to the tenets of Whitfield. He was taught Greek and Latin by a dissenting clergyman, and longed for an *experience* of the New Birth with such extreme earnestness, that he suffered undescribable distress of mind; and, concluding that God had forsaken him, 'read the account of the man in the iron cage in the Pilgrim's Progress, with the greatest perturbation.' He was afterwards very nearly in as bad a state, on discovering 'that he could not feel a proper repentance for the sin of Adam;' and in this hopeful frame of mind was sent to a dissenting academy at Daventry,

for the purpose of qualifying himself for the ministry. The life which he lived there he shall describe himself.

'I shall always acknowledge, with great gratitude, the obligations I owe to this seminary. The business of religion was effectually attended to in it. We were all catechized in public till we were grown up, servants as well as others; the minister always expounded the scriptures with as much regularity as he preached; and there was hardly a day in the week, in which there was not some meeting of one or other part of the congregation. On one evening there was a meeting of the young men for conversation and prayer. This I constantly attended, praying extempore with others when called upon.

'At my aunt's there was a monthly meeting of women, who acquitted themselves in prayer as well as any of the men belonging to the congregation. Being at first a child in the family, I was permitted to attend their meetings, and, growing up insensibly, heard them after I was capable of judging. My aunt after the death of her husband, prayed every morning and evening in her family, until I was about seventeen, when that duty devolved upon me.

'The Lord's day was kept with peculiar strictness. No victuals were dressed on that day in any family. No member of it was permitted to walk out for recreation; but the whole of the day was spent at the public meeting, or at home in reading, meditation, and prayer, in the family or the closet.' p. 13, 14.

In short, such was his attachment at this time to spiritual subjects, that 'seeing his brother Timothy reading a book of knight-errantry, he snatched it out of his hand, and threw it away with great indignation.' He remained at Daventry three years, and seems to have worked very hard at his theological and classical studies. He made it a rule to read ten folio pages of Greek every day, and generally a Greek play in the week besides; and maintained eternal disputations with his teachers upon 'all the articles of theological orthodoxy and heresy.' The study of Dr Hartley first converted him to the belief of the necessity of human actions;—a doctrine from which he assures us he has derived great comfort and satisfaction through the whole course of his life. He was much discouraged at this time by an impediment in his speech, which was never effectually removed; but accepted of the situation of pastor to a small dissenting congregation at Needham in Suffolk, who agreed to give him 40*l.* a year, though they never made up so much as 30*l.* Notwithstanding the slenderness of this appointment, he was disposed to be very happy and contented in his new situation; but having said something rather heterodox as to the Trinity, in a discussion on the Unity of God, such a clamour was raised against him, as made him think of changing his situation. Before doing this, however, he began his great work of reforming the vulgar system of Christianity,

by striking out the doctrine of atonement from his creed; and published a book, to show that 'that doctrine, even in its most qualified sense, had no countenance either from scripture or reason.' The next prejudice he got rid of, was that which relates to the divine inspiration of the sacred writers. He wrote another book, to show the absurdity of this opinion; and treated the Apostle Paul with much freedom, as a very indifferent and sophistical reasoner. Dr Kippis advised him to publish this under the character of an unbeliever; but he ultimately gave it to the world as his own.

From Needham he went to Nantwich in Cheshire, where he had a congregation consisting chiefly of travelling Scotchmen; and opened a school, in which he made experiments in natural philosophy, chiefly for the entertainment of his pupils, and their parents and friends. Here he published his English Grammar; and, at the end of three years, accepted the situation of tutor in the languages at the new academy at Warrington. Here, for the first time, he seems to have had work enough in his professional vocation; and truly it was no light task for one and the same teacher to deliver lectures—on the Theory of Language—on Oratory and Criticism—on the Constitution and History of England—on Elocution—on Hebrew—on Logic—on the Civil Law—and, finally, on Anatomy. In this situation, he published his Chart of Biography, and his History of Electricity; the study of the subject, the experiments, composition, and publication, being all completed in the leisure of one busy year.

After six years good service at Warrington, he accepted of an invitation to resume the pastoral office at Leeds, to which he removed in 1767. Here he got rid of the remains of his belief in the Holy Ghost and the divine nature of Jesus Christ, and every day saw more reason to be satisfied with the new views that were opened to him in Christianity. His leisure immediately fermented into a swarm of miscellaneous publications; and besides the treatise on Perspective, and the Principles and Conduct of the Dissenters, we reckon upwards of twenty volumes on theology and politics, composed and published within the space of four years. It was at this time that he was first led to make observations and experiments on air, from the accidental circumstance of residing in the neighbourhood of a brewery, where the phenomenon of fixed air was of course familiar to observation. He was then almost entirely ignorant of chemistry; but prosecuted his discoveries with so much industry and ingenuity, that, in 1772, he published a pamphlet on the subject, which excited very general attention in the scientific part of the community. About this time, he received the degree of LL. D. from our university

of Edinburgh, by the mediation of Dr Percival; and was received a Fellow of the Royal Society of London, on the recommendation of Dr Franklin, Dr Watson, and Dr Price. Here also he published his 'History of Discoveries relating to Light and Colours;' and had some prospect of being appointed to accompany Captain Cook in his voyage of discovery.

After passing six years very happily and busily at Leeds, he was tempted to resign his situation, and take up his residence in the family of the late Marquis of Lansdown, the Earl of Shelburne, where he was to attend his Lordship as a sort of literary companion, with an appointment of 250*l.* per annum, and 150*l.* for life in case of their previous separation. In this situation he continued seven years, in the course of which he visited France, Holland, and part of Germany, in company with his patron; and was assured, by the literati of Paris, that he was the only person of sense they had ever seen who professed to believe in Christianity. During his residence with Lord Shelburne, he was chiefly occupied with the prosecution of his experiments upon air and other physical inquiries; but, besides four large volumes upon these subjects, he favoured the world, in this interval, with a volume of Letters to a Philosophical Unbeliever—a Third Part of the Institutes of Natural Religion—Observations on Education—various metaphysical tracts, in opposition to Dr Reid—a partial edition of Hartley on Man—a Harmony of the Gospels—and two volumes of Disquisitions on Matter and Spirit, containing a warm defence of Materialism, and of the doctrine of Necessity.

During the last two years of his residence with Lord Shelburne, Dr Priestley informs us, he observed evident marks of dissatisfaction in his Lordship, though he could never understand the cause of it; and upon his at last proposing to give him an establishment in Ireland, the Doctor chose to claim the annuity which had been stipulated in the event of their separation, and which, he assures us, was ever after very punctually paid. He parted amicably from this patron, and was afterwards applied to by him in very pressing terms to return into his family: his occasional visits, however, were declined, to his sensible mortification. After this separation he spent a winter in London, where he lived in terms of particular intimacy with Dr Franklin, and afterwards removed to Birmingham, at the request of his brother-in-law Mr Wilkinson, where he again resumed the office of an Unitarian preacher. Here he enjoyed the society of Messrs Watt, Bolton, Keir, and Galton, and of Drs Darwin and Withering, as associates in his philosophical pursuits; and of various other persons of less celebrity, as fellow-labourers with him in the task of Christian reform. Soon after his settlement in this place, he published a

full statement and justification of his opinions, in a work, entitled, ' History of the Corruptions of Christianity ; ' which was followed and defended in another, entitled, ' History of early Opinions concerning Jesus Christ ; '—works which excited so much opposition, that he ever after found it necessary, he assures us, ' to write a pamphlet annually, in defence of his doctrines, against all opponents. '

This finishes the first part of the Memoirs written by Dr Priestley himself. There is a short continuation, bringing up the narrative to the year 1795, and dated at Northumberland in America. He continued his studies and publications, both in Chemistry and Theology, with great vigour and complacency, till 1791, when, having become very generally obnoxious to the established clergy, and through them to the ministry, he was exposed to a great deal of obloquy, and ultimately to very serious danger. Some of his friends having met to celebrate the anniversary of the French revolution, on the 14th July 1791, a mob of outrageous loyalists set fire to the dissenting meeting-houses, and afterwards to the dwellinghouses of all the obnoxious persons. In this tumult, Dr Priestley, after running great personal hazard, had the misfortune to lose all his library, apparatus, and specimens, and was forced to take refuge from the brutal fury of the insurgents in the metropolis. After a short time, he was invited to succeed Dr Price in the chapel at Hackney, and resumed his interminable labours with his usual zeal and alacrity. At that period, however, the imputation of political disaffection operated as a sort of proscription ; and he found himself at last obliged to resign his situation as a member of the Royal Society. He wrote various appeals and discourses upon the subject of his persecutions ; and published a great number of sermons upon the evidences and importance of religion. His situation, however, continuing in some measure uncomfortable, and the violent prejudices which had been excited against him having operated as obstructions to the advantageous settlement of his sons, he resolved to emigrate to America ; and, in April 1794, actually took his departure for that country. On the passage, he wrote various theological and controversial works, and arrived at New-York, in the sixty-first year of his age, with unbroken spirits, and resolutions of persevering activity.

This is all that is written by Dr Priestley himself. The continuation by his son is more diffuse and languid, though the detail of his father's last days be interesting and satisfactory. A great deal of room is occupied with an elaborate justification of his reasons for leaving England, and a contradiction of the injurious representations that were made in this country as to the nature of his reception in America. He was addressed, it seems, with

great respect, by the American Philosophical Society; was unanimously elected Professor of Chemistry at Philadelphia, and invited to give lectures on Philosophy and Unitarianism at New York. He chose, however, to decline all these offers; and, retiring into the country, settled in the small town of Northumberland, with the resolution of devoting himself entirely to his theological and chemical studies. He wrote, here, his Church History, and his Defence of Phlogiston, and delivered a course of lectures on the Evidences of Christianity, with great applause, at Philadelphia. After the accession of Mr Adams, however, to the office of President, he became obnoxious to the persons in power, on account of certain political opinions published by his intimate friend, Mr Cooper, in the preparation of which he was conceived to have had a share. It is admitted, that he highly disapproved of that administration; but we are assured by his son, that he never wrote any article of a political nature, or interfered, in any degree, in the management of parties. He uniformly declined, indeed, to be naturalized as a citizen of his new country, and gave himself no concern in any of the elections in his neighbourhood. By the uniform equanimity of his temper, and his habitual seclusion from the tumult of business, he gradually overcame those prejudices; and, though he was never looked upon with a very favourable eye by what is called the Federalist party, he was generally considered as a moderate and independent man; and, after the event of Mr Jefferson's election, had no longer any thing to apprehend from the discountenance of the administration. From 1801 to 1804, he was chiefly employed in chemical experiments, and in printing his Church History, and his Notes on the Scriptures. His health had been gradually declining for two years, and in July 1804, he fell into an alarming state of weakness, but remained to the last moment in perfect possession of his faculties, and retained all that methodical activity and cheerfulness of temper which had characterized him through life. We give the account of his last days at full length, both because we think it interesting in itself, and because it presents an amiable and favourable picture of a man who has been judged rather more severely by his contemporaries, than we conceive he will be by posterity.

'On Thurſday, the 2d of February, he wrote thus for the laſt time in his Diary. "Much worſe: incapable of buſineſs: Mr Kennedy came to receive inſtructions about printing in caſe of my death." He ſat up, however, a great part of the day, was cheerful, and gave Mr Cooper and myſelf ſome directions, with the ſame compoſure as though he had only been about to leave home for a ſhort time. Though it was fatiguing to him to talk, he read a good deal in the works above mentioned.

'On Friday he was much better. He sat up a good part of the day reading Newcome; Dr Disney's Translation of the Psalms; and some chapters in the Greek Testament:—which was his daily practice. He corrected a proof-sheet of the Notes on Isaiah. When he went to bed he was not so well: he had an idea he should not live another day. At prayer-time he wished to have the children kneel by his bedside, saying, it gave him great pleasure to see the little things kneel; and, thinking he possibly might not see them again, he gave them his blessing.

'On Saturday, the 4th, my father got up for about an hour while his bed was made. He said he felt more comfortable in bed than up. He read a good deal, and looked over the first sheet of the third volume of the Notes, that he might see how we were likely to go on with it; and having examined the Greek and Hebrew quotations, and finding them right, he said he was satisfied we should finish the work very well. In the course of the day, he expressed his gratitude in being permitted to die quietly in his family, without pain, with every convenience and comfort he could wish for. He dwelt upon the peculiarly happy situation in which it had pleased the Divine Being to place him in life; and the great advantage he had enjoyed in the acquaintance and friendship of some of the best and wisest men in the age in which he lived, and the satisfaction he derived from having led an useful as well as a happy life.

'On Sunday he was much weaker, and only sat up in an armed chair while his bed was made. He desired me to read to him the eleventh chapter of John. I was going on to read to the end of the chapter, but he stopped me at the 45th verse. He dwelt for some time on the advantage he had derived from reading the scriptures daily, and advised me to do the same; saying, that it would prove to me, as it had done to him, a source of the purest pleasure. He desired me to reach him a pamphlet which was at his bed's head, Simpson on the Duration of future Punishment. "It will be a source of satisfaction to you to read that pamphlet," said he, giving it to me: "It contains my sentiments; and a belief in them will be a support to you in the most trying circumstances, as it has been to me. We shall all meet finally: we only require different degrees of discipline, suited to our different tempers, to prepare us for final happiness." Upon Mr —— coming into his room, he said, "You see, Sir, I am still living." Mr —— observed, he would always live. "Yes," said he, "I believe I shall; and we shall all meet again in another and a better world." He said this with great animation, laying hold on Mr ——'s hand in both his.

'Before prayers, he desired me to reach him three publications, about which he would give me some directions next morning. His weakness would not permit him to do it at that time.

'At prayers he had all the children brought to his bedside as before. After prayers they wished him a good night, and were leaving the room. He desired them to stay; spoke to them each separately. He exhorted them all to continue to love each other. "And you, little

thing," ſpeaking to Eliza, "remember the hymn you learned; 'Birds in their little neſts agree,' &c. I am going to ſleep as well as you: for death is only a good long ſound ſleep in the grave, and we ſhall meet again." He congratulated us on the diſpoſitions of our children; ſaid it was a ſatisfaction to ſee them likely to turn out well; and continued for ſome time to expreſs his confidence in a happy immortality, and in a future ſtate, which would afford us an ample field for the exertion of our faculties.

'On Monday morning, the 6th of February, after having lain perfectly ſtill till four o'clock in the morning, he called to me, but in a fainter tone than uſual, to give him ſome wine and tincture of bark. I aſked him how he felt. He anſwered, he had no pain, but appeared fainting away gradually. About an hour after, he aſked me for ſome chicken broth, of which he took a tea-cup full. His pulſe was quick, weak, and fluttering; his breathing, though eaſy, ſhort. About eight o'clock, he aſked me to give him ſome egg and wine. After this he lay quite ſtill till ten o'clock, when he deſired me and Mr Cooper to bring him the pamphlets we had looked out the evening before. He then dictated, as clearly and diſtinctly as he had ever done in his life, the additions and alterations he wiſhed to have made in each. Mr Cooper took down the ſubſtance of what he ſaid, which, when he had done, I read to him. He ſaid, Mr Cooper had put it in his own language; he wiſhed it to be put in his. I then took a pen and ink to his bedſide. He then repeated over again, nearly word for word, what he had before ſaid; and when I had done, I read it over to him. "That is right, I have now done." About half an hour after he deſired, in a faint voice, that we would move him from the bed on which he lay, to a cot, that he might lye with his lower limbs horizontal, and his head upright. He died in about ten minutes after we had moved him; but breathed his laſt ſo eaſy, that neither myſelf or my wife, who were both ſitting cloſe to him, perceived it at the time. He had put his hand to his face, which prevented our obſerving it.' p. 217–20.

Before proceeding to say any thing on the merits of Dr Priestley's works, which are discussed in the appendix annexed to this volume, we shall take our leave of the Memoirs, by stating, in a few words, the impression which the perusal of them has excited, as to his personal character and dispositions.

Of his *activity* we need say nothing, after the slight sketch we have given of the multifarious productions of his pen. It is curious, however, to learn with how little labour these were generally composed, and how much leisure was left in a life which seems scarcely sufficient for half of what was crowded into it. The wonder may be partly explained, though certainly not entirely removed, by the following statements. In the first place, he wrote with such extreme facility, that he has himself stated, 'that he seldom employed so much time in any composition, as would have

been necessary to write it out fairly in long hand.' In the next place, he was never at all impeded by any species of bad health, nor found himself less qualified for mental exertion at one time than at another; and, finally, he contrived both to diminish the labour, and to abridge the duration of his studies by the attention he paid to vary them continually, and to observe the most inflexible regularity in the prosecution of them. The following account of his regular way of life, appears to us very interesting.

'He paid the greatest attention, through life, to the variation of his studies; his chemical and philosophical pursuits serving as a kind of relaxation from his theological studies. His miscellaneous reading, which was at all times very extensive, comprising even novels and plays, still served to increase the variety. For many years of his life he never spent less than two or three hours a day in games of amusement, as cards and backgammon; but particularly chess—at which he and my mother played regularly three games after dinner, and as many after supper. As his children grew up, chess was laid aside for whist, or some round game at cards, which he enjoyed as much as any of the company. It is hardly necessary to state, that he never played for money, even for the most trifling sum.

'To all these modes of relieving the mind, he added bodily exercise. Independent of his laboratory furnishing him with a good deal, as he never employed an operator, and never allowed any one even to light a fire, he generally lived in situations which required his walking a good deal, as at Calne, Birmingham and Hackney. Of that exercise he was very fond. He walked well, and his regular pace was four miles an hour. In situations where the necessity of walking was not imposed upon him, he worked in his garden as at Calne, when he had not occasion to go to Bowood: At Northumberland in America, he was particularly attached to this exercise.

'But what principally enabled him to do so much, was regularity; for it does not appear that at any period of his life, he spent more than six or eight hours per day in business that required much mental exertion. I find, in the same Diary which I have quoted from, above, that he laid down the following daily arrangement of time for a minister's studies.—Studying the Scriptures, one hour. Practical writers, half an hour. Philosophy and history, two hours. Classics, half an hour. Composition, one hour.—in all, five hours. He adds, below, "All which may be conveniently despatched before dinner; which leaves the afternoon for visiting and company, and the evening for exceeding in any article if there be occasion. Six hours not too much, nor seven."

'It appears by his Diary, that he followed this plan at that period of his life. He generally walked out in the afternoon, or spent it in company. At that time there was a society or club that assembled twice a week, at which the members debated questions, or took it in turn to deliver orations, or read essays of their own composition.

When not attending these meetings, he most generally appears to have spent the evening in company with some of the students in their chambers.' p. 184—7.

That he was able to do so much, even in the way in which it is done, with such astonishing facility, will appear still more surprising, when it is considered that he laboured under some great intellectual disadvantages. The following extraordinary account of the occasional failure of his memory, will be interesting to those who make a study of the physiology of mind.

'I have, from an early period, been subject to a most humbling failure of recollection, so that I have sometimes lost all ideas of both persons and things that I have been conversant with. I have so completely forgotten what I have myself published, that, in reading my own writings, what I find in them often appears perfectly new to me; and I have more than once made experiments, the results of which had been published by me.

'I shall particularly mention one fact of this kind, as it alarmed me much at the time, as a symptom of all my mental powers totally failing me, until I was relieved by the recollection of things of a similar nature having happened to me before. When I was composing the *Dissertations* which are prefixed to my *Harmony of the Gospels*, I had to ascertain something which had been the subject of much discussion relating to the Jewish passover (I have now forgotten what it was), and, for that purpose, had to consult and compare several writers. This I accordingly did, and digested the result in the compass of a few paragraphs, which I wrote in short hand. But having mislaid the paper, and my attention having been drawn off to other things, in the space of a fortnight I did the same thing over again; and should never have discovered that I had done it twice, if, after the second paper was transcribed for the press, I had not accidentally found the former; which I viewed with a degree of terror.' p. 106, 107.

His vanity, though not quite so ludicrous as that of Garrick or Boswell, seems to have been scarcely less restless or predominant in his nature. It did not, we believe, indicate itself in his ordinary discourse; but it may be traced very visibly in almost every thing he has written. He tells us very plainly, in these Memoirs, that he continued writing till none of his adversaries could produce any thing that was worthy of a reply; and when he mentions any treatise upon the subjects of his own speculations, it is commonly to say, that he received no satisfaction from it, or that he read it without any sort of profit. From the same feeling, he seems to have been frequently incapable of trusting the propagation of his opinions, or the establishment of his fame to the ordinary course of publication; but impatiently provoked and challenged some eminent antagonist to enter into the discussion, by a special appeal to him, or letters addressed to him individually. The harassment of these applications frequently produced unne-

cessary asperity in the management of the controversy; or, if they were not answered at all, Dr Priestley immediately set this down as a confession of inability, and boasted of having put his adversaries to silence. It is quite evident, indeed, to any one who reads his books, or even looks over these Memoirs, that he confidently expected his name to go down to posterity, as a great reformer in religion and philosophy; and had no doubt that a place would be assigned him in the Temple of Immortality, at least as distinguished as those of Luther and Newton. It has often occurred to us, indeed, that there is universally something presumptuous in provincial genius, and that it is a very rare felicity to meet with a man of talents out of the metropolis, who does not overrate himself and his *coterie* prodigiously. In the West of England in particular, there has been a succession of authors, who seem to have laid claim to a sort of omnipotence, and to have fancied that they were born to effect some mighty revolution in the different departments to which they applied themselves. We need only run over the names of Darwin, Day, Beddoes, Southey, Coleridge, and Priestley, to make ourselves perfectly intelligible. It is partly, no doubt, because they are ships in a river, but chiefly, we believe, for want of that wholesome discipline of derision to which every thing is subjected in London, and which amply atones for the finer beauties, which it nips and shrinks, by repressing the fungous excrescences of presumption and extravagant vanity. There is something, too, in the perpetual presence of the more permanent aristocracies of wealth, office, and rank, which tends to humble the pretensions of genius, and teaches aspiring men to measure their own importance by a more extended standard. Dr priestly, however, and his associates, were to all intents and purposes provincial philosophers; they took no cognizance of any sort of excellence or distinction but their own; and being ignorant, apparently, of the effect of adventitious circumstances in bestowing or obstructing reputation, they naturally fell headlong into those miscalculations, from which it is difficult to escape where self is the subject of computation.

Akin to this vanity, and perhaps in some degree founded upon it, is that perpetual contentedness and good humour with which Dr Priestley appears to have received all the accidents and occurrences of life. A more complete optimist indeed, we believe, never existed in practice; and it is amusing, as well as edifying, to run over the occasions of thankfulness and self-gratulation which he has recorded in this volume. In the first place, he is infinitely thankful to Providence for the superstitious horrors from which he suffered in his early youth, as he thinks they gave him

a turn for serious and devout reflection: then he is grateful for the weakness of his health at the same period, as it probably saved him from many sinful and many foolish occupations: next, he returns thanks for the gift of stammering, which prevented him from setting an undue value on the frivolous accomplishment of eloquence: afterwards, he expresses his gratitude for having an indifferent musical ear, as it enables him to listen to indifferent music without any distress: and, in the same temper, he finds reason to be thankful for his disappointment in not going with Captain Cooke,—for his firm belief in the doctrine of Necessity,—and for finding the spoken language of France unintelligible—a quality by which, he says, it is eminently fitted to excite new ideas in the mind of the hearer!

Connected with this sanguine and cheerful temperament, was the tranquillity and simplicity with which he always received the largest and the smallest pecuniary benefactions from his friends, and the inflexible spirit with which he rejected, at the same time, all offers of patronage or support from the government. We are inclined to ascribe to the same constitutional peculiarity, a certain coldness of heart towards his most valued friends, and a degree of tolerance and indulgence towards those of whose principles and opinions he must have thought most unfavourably. He is sufficiently contemptuous in argument; but there is no spirit of persecution in any of his writings; and he speaks with affection and esteem, not only of many persons whom he denounces as confirmed infidels, but even of many who were bigotted adherents to the doctrines of the church of England. He has no great knowledge, of course, of the manners of the world, nor any high relish for the more delicate accomplishments of polished society; but he judges of the value of these things with considerable soundness and sagacity; and openly expresses an opinion with regard to them, which is almost universally prevalent, we believe, among the intelligent in the middle ranks, and has even made some converts, we suspect, among the higher order.

'Reflecting on the time,' he observes, 'that I spent with Lord Shelburne, being as a guest in the family, I can truly say that I was not at all fascinated with that mode of life. Instead of looking back upon it with regret, one of the greatest subjects of my present thankfulness is the change of that situation for the one in which I am now placed; and yet I was far from being unhappy there, much less so than those who are born to such a state, and pass all their lives in it. These are generally unhappy from the want of *necessary* employment; on which account, chiefly, there appears to be much more happiness in the middle classes of life, who are above the fear of want, and yet have a sufficient motive for a constant exertion of their faculties, and who have always some other object besides amusement.

'I used to make no scruple of maintaining, that there is not only most virtue, and most happiness, but even most true politeness in the middle classes of life. For in proportion as men pass more of their time in the society of their equals, they get a better established habit of governing their tempers; they attend more to the feelings of others, and are more disposed to accommodate themselves to them. On the other hand, the passions of persons in higher life, having been less controlled, are more apt to be inflamed; the idea of their rank and superiority to others seldom quits them; and though they are in the habit of concealing their feelings, and disguising their passions, it is not always so well done, but that persons of ordinary discernment may perceive what they inwardly suffer. On this account, they are really entitled to compassion, it being the almost unavoidable consequence of their education and mode of life.' p. 82, 83.

As a further illustration of his temper and opinions, we extract the following little history of a Dr Frampton, who was a frequent guest at Lord Shelburne's in the country.

'No man perhaps was ever better qualified to please in a convivial hour, or had greater talents for conversation and repartee; in conquence of which, though there were several things very disgusting about him, his society was much courted, and many promises of preferment were made to him. To these, notwithstanding his knowledge of the world, and of high life, he gave too much credit; so that he spared no expense to gratify his taste and appetite, until he was universally involved in debt; and though his friends made some efforts to relieve him, he was confined a year in the county prison, at a time when his bodily infirmities required the greatest indulgences; and he obtained his release but a short time before his death, on condition of his living on a scanty allowance; the income of his livings (amounting to more than 400*l.* per annum) being in the hands of his creditors. Such was the end of a man who kept the table in a roar.

'Dr Frampton being a high-church man, he could not at first conceal his aversion to me, and endeavoured to do me some ill offices. But being a man of letters, and despising the clergy in his neighbourhood, he became at last much attached to me; and, in his distresses, was satisfied, I believe, that I was one of his most sincere friends. With some great defects, he had some considerable virtues, and uncommon abilities, which appeared more particularly in extempore speaking. He always preached without notes; and when, on some occasions, he composed his sermons, he could, if he chose to do it, repeat the whole *verbatim*. He frequently extemporized in verse, in a great variety of measures.' p. 75—77.

We should now proceed to make some remarks on the observations suggested by Mr Cooper, in the ample Appendix which he has annexed to this volume; but the length to which we have already extended our account of the Memoirs, will force us to confine our discussion of the many important questions which are there agitated, within very narrow limits.

In the first of these dissertations, which professes to examine and to estimate the amount of Dr Priestley's discoveries in Chemistry and Physics, we were surprised to find almost the whole space occupied with a long analysis of Mayow's essays on the Nitro-aerial and Fiery Spirit. The merits of that work have been pretty well understood, we believe, in this country, for the last twelve years. Along with an immense quantity of absurd reasoning, and more absurd hypothesis, it contains some extraordinary anticipations of those discoveries, the legitimate and systematic establishment of which has deservedly immortalized the philosophers of the eighteenth century. Every branch of science is full of similar occurrences; and the fame of Newton himself would be no longer secure, if the merit of discovery were to be attributed to every visionary, who, in the midst of his wild conjectures and crude speculations, had blundered upon a supposition, to which a more philosophical mind was afterwards to be conducted by profound meditation, and which he was to improve, by legitimate inference and sagacious experiment, into certain and valuable knowledge.

Of Dr Priestley's own chemical labours, Mr Cooper speaks, as might have been expected, in terms more magnificent than we can sanction. Black had laid the foundation of pneumatic chemistry, by his experiments on carbonic acid; and Cavendish had sketched the outline of the superstructure, by his publication in 1766, several years before Dr Priestley began his miscellaneous and desultory observations in the brewhouse at Leeds. That he afterwards made many curious and interesting experiments; that he has an equal claim with Scheele to the discovery of oxygen gas, and a better claim than any other person to the discovery of nitrous gas, may fairly be admitted. It may also be allowed, that he was among the earliest of those who speculated with sagacity upon the nature of respiration, and the effects of vegetation on the air of the atmosphere,—without concluding, as Mr Cooper has done, that he is to be considered as the father of Pneumatic Chemistry, and the chief author of those discoveries which may fairly be said, in our own days, to have created a new science.

He had great merit in the contrivance of his apparatus, which was simple and neat, to a degree that has never been equalled; and the indefatigable industry with which he pursued his researches, would entitle him to still higher praise, if he had combined with it the patience and forecast by which so much labour may be saved. The truth is, however, that he was always too much occupied with making experiments, to have leisure either to plan them beforehand with philosophical precision, or to combine their results afterwards into systematic conclusions. He was

so impatient to be doing, that he could spare no time for thinking; and erroneously imagined, that science was to be forwarded rather by accumulating facts, than by meditating on those that were ascertained. In the whole course of his researches, he seems to have been actuated rather by a restless and vague curiosity to learn the issue of certain combinations, than by any steady view of elucidating the great processes of nature, by a few decisive observations; and seems to have been entirely forgetful of Bacon's invaluable precepts, that experiments should not be many, but decisive, and that they should be preceded by certain limited hypotheses or conjectures, founded upon a careful examination of all the analogous facts that had been previously ascertained on the subject. Without these precautions, the great founder of physical philosophy has declared, that to make experiments, however numerous, or however pretty, was merely to grope in the dark, and could scarcely ever lead to valuable or certain conclusions. The greater part of Dr Priestley's experiments are exactly of this description. There is about as much philosophy in them, as in sweeping the sky for comets.

He was, through his whole life, a strenuous defender of the unintelligible system of phlogiston; and the very best of his chemical publications is his defence of that doctrine; not, however, on account of the plausibility or ingenuity with which he supports the affirmative part of the argument, but for the force and precision with which he has brought together the objections which may still be urged against the more popular theory of the French philosophers. We agree with Mr Cooper in thinking, that many of these objections are still unanswered; and as we really think it of importance to draw the attention of the public to the weak parts of a system, of which it is now customary to speak as impregnable, we shall take leave to lay before them Mr Cooper's summary of the reasons of Dr Priestley's dissentient in 1803.

'Certainly it has not yet been sufficiently explained, on the new theory, what becomes of the oxygen from the decomposed water in the solution of metals in acids; nor why inflammable air is produced when one metal in solution is precipitated by another; nor why dephlogisticated air is hardly to be procured from finery cinder, if at all; nor why this substance, so abounding in oxygen according to the new theory, will not oxygenate the muriatic acid; nor why it should answer all the purposes of water in the production of inflammable air from charcoal; nor why water in abundance should be produced when finery cinder is heated in inflammable air, and none when red precipitate is exposed to the same process; nor what becomes of the oxygen of the decomposed water when steam is sent over red-hot zinc, and inflammable air is produced without any addition in weight to the

zinc employed; nor why there should be a copious production of inflammable air when hot filings of zinc are added to hot mercury in a hot retort, and exposed to a common furnace heat, which I believe is an unreported experiment of Mr Kirwan's; nor why sulphur and phosphorus are formed by heating their acids in inflammable air without our being able to detect the oxygen which on the new theory ought to be separated; nor why water should be produced by the combustion of inflammable air with .47 of oxygen, and nitrous acid when .51 of oxygen is employed,—for this experiment can now no more be doubted than explained; nor why, on the new doctrine, the addition of phlogisticated air should make no alteration in the quantity of acid thus obtained; nor why red-hot charcoal, slowly supplied with steam, should furnish inflammable air only, and not fixed or carbonic acid air; nor why nothing but pure fixed air should be produced by heating the carbonated barytes in the same way; nor why fixed air should be formed under circumstances when it cannot be pretended that carbon is present, as when gold, silver, platina, copper, lead, tin and bismuth, are heated by a lens in common air over lime-water; nor why the grey and yellow calces of lead should furnish carbonic acid and azote, and no oxygen; nor why the residuum of red-lead, when all its oxygen is driven off by heat, should be either massicot or glass of lead according to the degree of heat, and not lead in its metalline state; nor why plumbago with steam should yield inflammable and not fixed air; nor why minium and precipitate, per se, heated in inflammable air, should produce fixed air; nor why, on the evaporation of a diamond in oxygen, the fixed air produced should far exceed the weight of the diamond employed, if some of the oxygen had not entered into the composition of the carbonic acid so formed; nor why there should be a constant residuum of phlogisticated air (or azote) after the firing of dephlogisticated and inflammable airs, if it be not formed in the process; nor why phlogisticated air, if a simple substance, should be so evidently formed in the various processes enumerated by Dr Priestley in the 13th section of the pamphlet of which I have made the foregoing abstract?'

Of his other physical works, we need say little. His history of Electricity, though somewhat tame and tedious, is intelligent, clear, and judicious. His history of discoveries respecting Light and Colour, is hasty and imperfect. His elementary treatises are excellent; they are plain, rational, and engaging; the author never forgets that his reader is supposed to be ignorant, or that the subject may be repulsive to a beginner. His peculiar talent, indeed, seems to have been, to make knowledge popular and easy; and though far inferior to Dr Franklin in originality and vivacity of expression, he seems to have derived from him some of that unpretending simplicity of statement, and some of that power of familiar illustration which is so captivating to those who are entering upon a new course of inquiry.

In the Second number of the Appendix, Mr Cooper professes to estimate the *metaphysical* writings of Dr Priestley, and delivers a long and very zealous defence of the doctrine of Materialism, and of the Necessity of human actions. A good deal of learning and a good deal of talent are shown in this production; but we believe that most of our readers will be surprised to find that Mr Cooper considers these questions as finally set at rest by the disquisitions of his learned friend.

'Indeed,' he obſerves, 'thoſe queſtions muſt now be conſidered as ſettled; for thoſe who can reſiſt Collins's philoſophical inquiry, the ſection of Dr Hartley on the mechaniſm of the mind, and the review of the ſubject taken by Dr Prieſtley and his opponents, are not to be reaſoned with. *Interest reipublicæ ut denique sit finis litium*, is a maxim of technical law. It will apply equally to the republic of letters; and the time ſeems to have arrived, when the ſeparate exiſtence of the human ſoul, the freedom of the will, and the eternal duration of future puniſhment, like the doctrines of the Trinity, and Tranſubſtantiation, may be regarded as no longer entitled to public diſcuſſion.' p. 335.

The advocates of Necessity, we know, have long been pretty much of this opinion, and we have no great inclination to disturb them at present with any renewal of the controversy; but we really did not know that the advocates of Materialism laid claim to the same triumph; and find some difficulty in admitting, that all who believe in the existence of mind are unfit to be reasoned with. To us, indeed, it has always appeared that it was much easier to prove the existence of mind, than the existence of matter; and with whatever contempt Mr Cooper and his friends may regard us, we must be permitted to say a word or two in defence of the vulgar opinion.

The sum of the argument against the existence of mind, in case any of our readers should be ignorant of it, is shortly as follows. The phenomena of thinking, or perception, are always found connected with a certain mass of organized matter, and have never been known to exist in a separate or detached state. It seems natural, therefore, to consider them as qualities of that substance; nor is it any objection to say, that the quality of thinking has no sort of resemblance or affinity to any of the other qualities with which we know matter to be endowed. This is equally true of all the primary qualities of matter, when compared with each other. Solidity, for instance, bears no sort of resemblance or affinity to extension, nor is there any other reason for our considering them as qualities of the same substance, but that they are always found in conjunction—that they inhabit the same portion of space, and present themselves together, on all occasions, to our observation. Now, this may be said, with equal

force, of the quality of thinking. It is always found in conjunction with a certain mass of solid and extended matter—it inhabits the same portion of space, and presents itself invariably along with those other qualities, the assemblage of which makes up our idea of organized matter. Whatever substratum can support and unite the qualities of solidity and extension, may support the quality of thinking also; and it is eminently unphilosophical to suppose, that it inheres in a separate substance, to which we should give the appellation of mind. All the phenomena of thought may be resolved, by the assistance of Dr Hartley, into perception and association. Now, perception is evidently produced by certain mechanical impulses upon the nerves transmitted to the brain, and can therefore be directly proved to be merely a peculiar species of motion; and association is something very like the vibration of musical cords in juxtaposition, and is strictly within the analogy of material movement.

In answering this argument, we will fairly confess that we have no distinct idea of substance, and that we are perfectly aware that it is impossible to combine three propositions upon the subject, without involving a contradiction. All that we know of substance, are its qualities; yet qualities must belong to something—and of that something to which they belong, and by which they are united, we neither know any thing, nor can form any conception. We cannot help believing that it exists; but we have no distinct notion as to the mode of its existence.

Admitting this, therefore, in the first place, we may perhaps be permitted to observe, that it seems a little disorderly and unphilosophical, to class perception among the qualities of matter, when it is obvious, that it is by means of perception alone that we get any notion of matter or its qualities; and that it is possible, with perfect consistency, to maintain the existence of our perceptions, and to deny that of matter altogether. The other qualities of matter are perceived by us; but perception cannot be perceived: all we know about it is, that it is that by which we perceive every thing else. It sounds somewhat absurd and unintelligible, to say that perception is that quality of matter by which it becomes conscious of its own existence, and acquainted with its other qualities. It is plain that this is not a quality, but a knowledge of qualities; and that the percipient must necessarily be distinct from that which is perceived by it. We must always begin with perception; and the followers of Berkeley will tell us, that we must end there also. At all events, it certainly never entered into the head of any plain man to conceive, that the faculty of perception itself was one of the qualities with which that faculty made him

acquainted; or that it could possibly belong to a substance, which his earliest intimations and most indestructible impressions taught him to regard as something external and separate. *

This, then, is the first objection to the doctrine of Materialism, that it makes the faculty of perception a quality of the thing perceived; and converts, in a way that must at first sight appear absurd to all mankind, our knowledge of the qualities of matter into another quality of the same substance. The truth is, however, that it is a gross and unwarrantable abuse of language, to call perception a *quality* at all. It is an act or an event, a fact or a phenomenon, of which the percipient is conscious: but it cannot be intelligibly conceived as a quality; and, least of all, as a quality of that substance which is known to us as solid and extended. 1*st*, All the qualities of matter, it has been already stated, are perceived by the senses: but the sensation itself cannot be so perceived; nor is it possible to call it an object of sense, without the grossest perversion of expression. 2*dly*, All the qualities of matter have a direct reference to space or extension, and are conceived, in some measure, as attributes or qualities of the space within which they exist. When we say that a particular body is solid, we mean merely that a certain portion of space is impenetrable: when we say that it is coloured, we mean that the same portion of space appears of one hue,—and so of the other qualities: but sensation or thought is never conceived to occupy space, or to characterize it; nor can these faculties be at all conceived as definite portions of space, endued with perceptible properties. In the *third* place, all the primary qualities of matter are inseparable

* We are not very partial to the practice of quoting poetry in illustration of metaphysics; but the following lines seem to express so forcibly the universal and natural impression of mankind on this subject, that we cannot help offering them to the consideration of the reader.

'Am I but what I seem, mere flesh and blood?
A branching channel, and a mazy flood?
The purple stream, that through my vessels glides,
Dull and unconscious flows like common tides.
The pipes, through which the circling juices stray
Are not that thinking I, no more than they.
This frame, compacted with transcendent skill,
Of moving joints, obedient to my will,
Nursed from the fruitful glebe like yonder tree,
Waxes and wastes: I call it MINE, not ME.
New matter still the mouldering mass sustains;
The mansion changed, the tenant still remains,
And, from the fleeting stream repair'd by food,
Distinct, as is the swimmer from the flood,'

from it, and enter necessarily into its conception and definition. All matter must necessarily be conceived so extended, solid, and figured. It is obvious, however, that thought or sensation is not an inseparable attribute of matter, as by far the greater part of matter is entirely destitute of it; and it is found in connexion with those parts which we term organized, only while they are in a certain state, which we call alive. If it be said, however, that thought may resemble those accidental qualities of matter, such as heat or colour, which are not inseparable or permanent; then we reply, that none of these things can properly be termed matter, more than thought or sensation: they are themselves substances, or matter possessed of inseparable and peculiar qualities, as well as those which address themselves to the other senses. Light is a material substance, from which the quality of colour is inseparable; and heat is a material substance, which has universally the quality of exciting the sensasation of warmth. If thought be allowed to be a substance in this sense, it will remain to show that it is material, by being referable to space, and liable to attraction, repulsion, condensation or reflection, like heat or light.

But though the very basis and foundation of the argument for Materialism is placed upon the assumption, that thought and perception are qualities, it is curious to observe, that Dr Priestley, and the other champions of that doctrine, do actually give up that point altogether, and maintain, that thought is nothing else than motion. Now, this, we cannot help thinking, is very impolitic and injudicious in these learned persons: for, so long as they stuck to the general assertion, that thought might be a quality of matter, although it bore no analogy to any of its other qualities,—and talked about the inherent capacity of substance, to support all sorts of qualities; although their doctrine might elude our comprehension, and revolt all our habits of reasoning,—still it might be difficult to demonstrate its fallacy; and a certain perplexing argumentation might be maintained by a person well acquainted with the use of words: But when they cast away the protection of this most convenient obscurity, and, instead of saying that they do not know what thought is, have the courage to refer it to the known category of motion, they evidently subject their theory to the test of rational examination, and furnish us with a criterion by which its truth may be easily determined.

We shall not be so rash as to attempt any definition of motion; but we believe we may take it for granted, that our readers know pretty well what it is. At all events, it is not a quality of matter; it is an act, a phenomenon, or a fact:—but it makes no part of the description or conception of matter, though it only exists

with reference to that substance. Let any man ask himself, however, whether the motion of matter bears any sort of resemblance to thought or sensation; or whether it be even conceivable that these should be one and the same thing?—But, it is said, we find sensation always produced by motion; and as we can discover nothing else in conjunction with it, we are justified in ascribing it to motion. This, we beg leave to say, is not the question. It is not necessary to inquire, whether motion may *produce* sensation or not, but whether sensation *be* motion, and nothing else. It seems pretty evident that motion can produce nothing but motion or impulse, and that it is at least as inconceivable that it should ever produce sensation in matter, as that it should produce a separate substance, called mind. But this, we repeat, is not the question with the materialists. Their proposition is, not that motion produces sensation, which might be as well in the mind as in the body; but, that sensation is motion; and that all the phenomena of thought and perception are intelligibly accounted for by saying, that they are certain little shakings in the pulpy part of the brain.

There are certain propositions which it is difficult to confute, because it is impossible to comprehend them; and this, the substantive article in the creed of Materialism, really seems to be of this description:—to say that thought is motion, is as unintelligible to us, as to say that it is space, or that it is proportion.

There may be little shakings in the brain, for any thing we know, and there may even be shakings of a different kind accompanying every act of thought or perception;—but, that the shakings themselves are the thought or perception, we are so far from admitting, that we find it absolutely impossible to comprehend what is meant by the assertion. The shakings are certain throbbings, vibrations, or stirrings, in a whitish half-fluid substance like custard, which we might see perhaps, or feel, if we had eyes and fingers sufficiently small or fine for the office. But what should we see or feel, upon the supposition, that we could detect, by our senses, every thing that actually took place in the brain? We should see the particles of this substance change their place a little, move a little up or down, to the right or the left, round about, or zig-zag, or in some other course or direction. This is all that we could see, if Dr Hartley's conjecture were proved by actual observation; because this is all that exists in motion,—according to our conception of it; and all that we mean, when we say that there is motion in any substance. Is it intelligible, then, to say, that this motion, the whole of which we see and comprehend, is thought and feeling—and that thought and feeling will exist, wherever we can excite a similar motion in

a similar substance?—In our humble apprehension, the proposition is not so much false, as utterly unmeaning and incomprehensible. That sensation may follow motion in the brain, or may even be produced by it, is conceivable at least, and may be affirmed with perfect precision and consistency; but that the motion is itself sensation, and that the proper and complete definition of thought and feeling is, that they are certain vibrations in the brain, is a doctrine, we think, that can only be wondered at, and that must be comprehended before it be answered.

No advocate for the existence of mind, ever thought it necessary to deny that there was a certain bodily apparatus necessary to thought and sensation in man—and that, on many occasions, the sensation was preceded or introduced by certain impulses and corresponding movements of this material machinery:—we cannot see without eyes and light, nor think without living bodies. All that they maintain, is, that these impulses and movements are not feelings or thought, but merely the occasions of feeling and thought; and that it is impossible for them to confound the material motions which precede their sensations, with the sensations themselves, which have no conceivable affinity with matter.

The theory of Materialism, then, appears to us to be altogether unintelligible and absurd; and, without recurring to the reasoning of the Berkeleians, it seems quite enough to determine us to reject it, that it confounds the act of perception with the qualities perceived, and classes among the objects of perception, the faculty by which these objects are introduced to our knowledge,—and which must be exercised, before we can attain to any conception, either of matter or its qualities.

We do not pretend to have looked through the whole controversy which Dr Priestley's publications on the subject appears to have excited: But nothing certainly has struck us with more astonishment, than the preposterous zeal with which he maintains that this Doctrine, and that of Necessity, taken together, afford the greatest support to the cause of religion and morality. We are a little puzzled, indeed, to discover what use, or what reason there can be for a God at all, upon this hypothesis of Materialism, as well as to imagine what species of being the God of the materialist must be. If the organization of matter produces reason, memory, imagination, and all the other attributes of mind,—and if these different phenomena be the necessary result of certain motions impressed upon matter; then there is no need for any other reason or energy in the universe: and things may be administered very comfortably, by the intellect spontaneously evolved in the different combinations of matter. But if Dr Priestley will have a superfluous Deity notwithstanding, we may ask what sort

of a Deity he can expect? He denies the existence of mind or spirit altogether; so that his Deity must be material; and his wisdom, power, and goodness must be the necessary result of a certain organization. But how can a material deity be immortal? How could he have been formed? Or why should there not be more formed, by himself, or by his creator? We will not affirm that Dr Priestley has not attempted to answer these questions; but we will take it upon us to say, that he cannot have answered them in a satisfactory manner. As to his paradoxical doctrines, with regard to the natural mortality of man, and the incomprehensible gift of immortality conferred on a material being which visibly moulders and is dissolved, we shall only say, that it exceeds in absurdity any of the dogmas of the Catholics; and can only be exceeded by his own supposition, that our Saviour, being only a man, and yet destined to live to the day of judgment, is still alive in his original human body upon earth, and is really the Wandering Jew of vulgar superstition!

The length to which these observations have extended, prevents us from saying any thing on the rest of Mr Cooper's metaphysical speculations. They are enlivened with a great deal of coarse abuse and heavy invective against Bishop Horsley, whom we are not much disposed to defend; and a great deal of unmeaning insolence towards the Scotch metaphysicians, who do not stand in need of any defence of ours. Dr Hartley is his *Magnus Apollo*; and, after informing his readers, that Dr Reid had given a critique of his theory without understanding it, Mr Cooper is obliging enough to present them with the following precious abstract, which we really believe to be unparalleled for obscurity, vulgarity, and simple absurdity.

'That theory in substance is this. An external object (a peach for instance) makes an impression at once, on our organs of feeling, of sight, and of taste. The impression thus made on the extreme end of the appropriate nerve, is propagated by some species of motion along the course of the nerve up to the brain, and there, and there only, perceived; for if the nerve be cut, or tied, or palsied, in any part of its course, the impression is not perceived. Motions in the brain thus produced and perceived, are *sensations*: similar motions arising, or produced without the impression of an external object, are *ideas*. These impressions being, in the instance given, simultaneous, or nearly so, are associated; so that the sensation produced by the sight of a peach, will give rise to motions in the brain similar to those produced at first by the taste and the touch of it; *i. e.* it will suggest the *ideas* of taste and touch, and excite the inclination to reach and to eat the object of them. Hence, sensations, ideas, and muscular motions are associated together, and mutually suggest and give rise to each other. What species of motion it is, with which the nervous system is affected in this process, or whether Sir Isaac Newton's

æther, or its modern substitute the electric fluid, has any thing to do with it or not, is no essential part of the theory, and may be adopted or rejected without prejudice to the main system. Some kind of motion there manifestly is; I think it *demonstrable* that it is vibratory; but of whatever kind it be, its existence in the brain is unquestionable; and the association and catenation of individual motions in the brain, according to certain laws, is equally so. This is matter of fact; and it was Dr Reid's business, if he could, to show that neither the motions, the perceptions, or the associations took place in that organ.' p. 334, 335.

From this luminous statement, we gather, that no ideas are ever associated, except those which are presented together, or at once; that a desire to reach, and to eat an object, is generated, heaven knows how, by certain motions in the brain; and finally, that the sight of a peach necessarily gives us a desire to reach, and to eat it: and as muscular motions, are associated with ideas, as well as ideas with muscular motions, the act of reaching or eating must also give us the idea of a peach.—We propose, on some future occasion, to enter at some length into an examination of Hartley's whole hypothesis; but, in the mean time, we really cannot, with a safe conscience, recommend Mr Cooper's abstract as a perfect miniature of the original.

The Third number of the Appendix contains an examination of Dr Priestley's political writings and opinions, and is introduced by a long and ingenious dissertation on the possibility of ameliorating the condition of mankind, in which Mr Cooper endeavours to controvert, or to limit, some of Mr Malthus's positions on the subject, in a manner that does credit both to his heart and his understanding. Our admiration, however, is turned into a very opposite feeling, when we find him proceeding to hold forth Dr Priestley as one of the great oracles of political wisdom, and one of the most eminent benefactors of mankind, for having laid down, in his essay on civil government, the general maxim, 'That no principle of government can be binding, if it be manifestly contrary to the good of the whole.' We do believe, that there never was a debate or a discussion upon any general question of policy, or even upon any particular measure of government, in which this maxim was not advanced and distinctly assented to by both the parties concerned: nor can any thing appear more truly ludicrous, than to hear a man extolled and magnified for discovering or bringing forward a truth, which has been constantly asserted and admitted over all Europe for the last hundred years. There is an encomium on America, which it would give us pleasure to think she deserved;—a vehement attack upon the 'weak, wicked, and vindictive administration of Mr Adams;'—an argu-

ment against church establishments;—and a warm eulogium upon Dr Priestley's uniform zeal for religious as well as political liberty.

The Fourth number of the Appendix contains an uninteresting account of his miscellaneous and literary works, consisting chiefly of abstracts of lectures delivered by him at Warrington. They appear to be of little value; and, like all his other writings, they are composed in a tedious, diffuse, awkward, tame and disjointed style.

The volume closes with a few pages, professing to be a summary of his religious opinions. Our readers will not expect us to give any account of the fifty polemical volumes, in which the merits of these opinions must be studied. We have already said, that we believe him to have been sincere in the singular profession of faith which he promulgated; and therefore, we are constrained to respect his endeavours to confirm and recommend it. But it is impossible not to regret the presumption and infatuation by which he seems to have been guided; and we are afraid that the theological speculations of a man of great learning, sagacity, industry and devotion, are at this day an offence to the serious, and a jest to the profane. For the comfort of those, however, who may be of a different opinion, we have to announce, that a large analysis of all Dr Priestley's theological writings is now in the press, and, with a few sermons, will make a volume as large as the present.

ART. X. *Geometrie du Compas, &c.* The Geometry of the Compasses: By *L. Mascheroni.* Translated into French, by A. M. Charette, Officer of Engineers. 8vo.

THOUGH the *Geometria del Compasso* was published in Italian at Milan several years ago, and translated into French as far back as 1798, it has only within these few months made its way into this country. It is not the most difficult, or most profound work that has come from the pen of the late *Abàte* Mascheroni; but it must nevertheless interest geometers, both on account of the novelty of the plan, and the ingenuity of the execution.

The object of the author is to resolve, by the circle alone, those problems in plane geometry, which are usually resolved by the assistance both of the circle and the straight line. The constructions are all performed, therefore, by the compasses alone; the *rule* is never used in them; and straight lines are drawn for the sake of the demonstration only, not in order to determine any magnitude required to be found. The author thus voluntа-

rily gives up one of the great resources of his art, with a view, no doubt, of trying whether his own ingenuity may not supply its place; and whether, as sometimes happens, with more slender means of executing his work, more simple expedients may not be discovered.

If of the two instruments of plane geometry, the rule and the compasses, one was to be relinquished, there could be no doubt that it must be the former; for, except the simple operations required to be performed in the first and second postulates of Euclid, there is no problem in the Elements of Geometry that is constructed by straight lines only; nor are there any means, without the help of the circle, of making one line, or one angle equal to another. Mascheroni hesitated, however, he tells us, whether he should enter on the inquiry at all; till he found, on looking into the description of some of the practical methods of dividing astronomical instruments, that whether he should add by his proposed plan to the simplicity of his constructions, he was likely at least to add very much to their accuracy. 'I happened,' says he, 'to read over again, in the French Encyclopedie, the manner in which the English artists, Graham and Bird, divided their large astronomical quadrants. That which Graham made for the Greenwich Observatory, not only has served as a model for the greater number of those that have been since constructed, but must be considered as the best that was known before the time of Ramsden. I found that the division of this celebrated instrument had been performed by the compasses alone, without the *rule*; and nothing indeed can be more interesting, than the description of the means employed by the artist in that long and ingenious operation. It is unnecessary to enumerate all the motives which prompted the exclusion of the *rule*: it is sufficient to remark, that when lines are to be drawn so fine and accurate as to bear the examination of a microscope, the compasses must be resorted to; because, however short a *rule* may be, it is difficult to be assured of its perfect straightness; and again, because the point, by which the line is traced while it is drawn along the edge of the *rule*, may not preserve an exact parallelism to it. The compasses are not subject to these two inconveniences; if their opening be steadily fixt, and the points made very fine, while one of them is placed in the centre, the other will describe an arch of a circle with the utmost possible exactness.'—'I began, therefore, to think that I should accomplish a good deal, if I could divide the circumference into more than six equal parts by the compasses alone. To the artists who work in astronomical instruments, I should do a service, especially if my divisions of the circumference should be more extensive, and more conformable to the usual division of the quadrant into

90 degrees. I should furnish to this class of artists the means of geometrical accuracy; I should spare them the necessity of repeated trials, and should render their work independent of the scale of equal parts (employed by Bird), which is not according to the strictness of geometry, and cannot be depended on as exact.'

These considerations induced the author to set to work to invent new constructions of the problems in geometry, from which straight lines were entirely to be excluded. In this he found himself more successful than he could possibly have supposed; and he became at last satisfied, that it is possible to resolve, by the circle alone, *every* problem that belongs to plane geometry, or that has hitherto been resolved by circles and straight lines. We are not therefore to regard what he has done, as a mere *jeu d'esprit*, or as the attempt of a man who wantonly gives up a material advantage, merely to show his address in supplying the want of it. Besides the reasons alleged above, it is always of use to try new methods, and to form new combinations, by which truths may be discovered, and by which the powers of invention are sure to be improved.

The volume is divided into twelve books, in each of which a different subject is treated of. The First book contains some preliminary notions concerning the nature of the constructions to be employed, and their connexion with the 47th of the first of Euclid, the great source from which they are mostly derived. The Second treats of the division of the circumference of a circle into equal parts, or of the inscription of regular polygons; and it is here that the new methods are employed to the greatest advantage. The constructions have a great deal of elegance: it appears that the circle, when thus applied to itself, affords results of uncommon simplicity; and that the straight line may here be dispensed with, more easily, than in any other case.

We shall give some examples, where Mascheroni appears to us to have been singularly successful, and where the simplicity of the constructions allows them to be explained without the help of diagrams.

Let it be required to divide the circumference of a given circle into four equal parts, or, which is the same, to find the chord of 90°. Assuming a point in the circumference of the circle, as one extremity of a diameter, apply from thence the radius three times along the circumference, and thus we get the other extremity of the diameter, and we also mark off the arches of 60° and 120°. With the chord of 120° as a radius from the two extremities of the diameter just determined, describe two arches intersecting one another. The distance of this intersection from the

centre of the given circle, is the chord of 90°, or of the fourth part of the circumference; and, taken in the compasses, serves to divide it into four equal parts.

The truth of this is easily made evident. If the radius of the given circle = 1, the square of the diameter = 4; and since the lines drawn from the extremities of the diameter to any of the points of division in the circumference, contain a right angle, and are, one of them the chord of 60°, and the other of 120°, the sum of their squares = 4, from which, taking away the square of the chord of 60°, or of the radius = 1, there remains the square of the chord of 120° equal to 3. The square of the line drawn from either extremity of the diameter, to the intersection of the two arches, is therefore = 3; and this line being the hypothenuse of a right-angled triangle having the right angle at the centre of the circle, if we take away from the square of it, the square of the radius, the remainder 2 is the square of the distance of the centre from the intersection of the arches. That distance is therefore = $\sqrt{2}$. But the chord of 90 is also = $\sqrt{2}$, when the radius is unity. Therefore, &c. Q. E. D.

We have been obliged to depart, in this demonstration, from the language of Mascheroni, and to adopt that of trigonometry, as the only one that could be intelligible when a diagram was wanting. His demonstration here, and on many other occasions, is more prolix than necessary, and might have been abridged without any injury to perspicuity, by employing the terms and notation of trigonometry.

From the preceding solution, the division of the circumference into *eight* equal parts is readily derived. From the intersection determined above, with a radius = 1, (that of the given circle), describe an arch intersecting the given circle. This intersection will bisect the arch of 90° above determined.

We shall add the division of the circumference into five equal parts, or the construction of a regular pentagon, as a problem which we certainly would not have expected to find resolved by compasses alone.

Having assumed one extremity of a diameter, and determined the other, as in the preceding problem, and also the arch of 90°, or the middle of the semicircle, from this last point set off on each side an arch of 60° (by taking the radius in the compasses); these two together are = 120°. From the extremities of the chord of 120° thus found, with the chord of 90° for the radius, describe two arches intersecting one another on that side of the chord of 120°, where the diameter, already determined, lies. The distance of this intersection from either of the extremities of the diameter, is the chord of 72°, or the side of an equilateral pen-

tagon inscribed in the circle. The demonstration cannot easily be given here; but it depends on this, that the side of the equilateral pentagon, the radius being 1, is $=\sqrt{\frac{5-\sqrt{5}}{2}}$.

It is remarkable enough, that our author arrives here nearly at the same construction which is given by Ptolemy in his *Almagest*, for finding the chord of the fifth part of the circumference.

In the remaining propositions of this book, he carries the division of the circle still farther, extending it to 12, 24, and 120 equal parts. The last problem, where he teaches how to bisect any given arch, is resolved by means very simple, but not at all obvious. It is particularly deserving of attention.

The books that follow treat of different classes of problems, which are not all so well accommodated to this kind of geometry as those which we have just been describing. The solutions, however, on that very account, have given more exercise to the author's ingenuity. The Third book is employed about the multiplication and division of rectilineal distances; the Fourth about their addition and subtraction; and here difficulties occur even in problems that, treated in the common way, are the most easily resolved. To make one distance double of another, or to divide a distance into two equal parts, requires some contrivance in a geometer who is deprived of the assistance of straight lines. The solutions, we doubt not, have all the simplicity that the condition just mentioned will allow them to possess; but they have by no means the elegance of those in the second book.

The Fifth book treats of proportional distances; the Sixth, of finding the square roots of numbers; and in these the constructions are less operose than in the two preceding books. The Seventh, on the intersection of straight lines and circles, contains problems of a very general kind. The solutions are often very simple and elegant.

The Eighth constructs the lines used in trigonometry; the Ninth treats of similar figures; the Tenth of centres; for, even to find the centre of a given circle, is a problem in this geometry, which it has required no small share of ingenuity to resolve. The Eleventh, is a miscellaneous collection, in which several problems of Pappus, and other geometers of note, are resolved by the method peculiar to the present work, and we think, in general, with very considerable success. On the whole, the author concludes, that every plain problem whatsoever, that is, every problem that can be resolved by the rule and compasses, may also be resolved by the compasses alone. This conclusion is certainly founded on a very ample induction; and indeed, after the first problem of the 7th, for finding the intersection of a circle with a

straight line, (two points only in that line being given), so full an induction was not necessary to authorise this conclusion.

The Twelfth book treats of approximations, by which severa problems of the higher orders are resolved, such as, the doubling of the cube, the rectification of the circle, &c. Among these, we are sorry not to observe the trisection of an arch.

In the whole of this work we find great clearness and precision; and the demonstrations are commendable, for referring very exactly to Euclid, so as to put the perusal of them in the power of any one acquainted with the elements. One thing, we imagine, would have added much to the value of these propositions, —if they had been given after the manner of the geometrical analysis of the ancients. The analytical form would, we think, have suited them well, and very much increased the interest the young geometer would have felt in them, and the benefit he would have received. They would then have conveyed an idea of the road to be pursued in the investigation of such propositions, instead of hiding it, as is now done, under the cover of a synthetical demonstration. We think this might have been easily done; and it is not difficult to see how the geometrical analysis might have been applied to that purpose. Nothing must be understood to be given, or to be found, except what is determined by the intersection of two circles given in position. The thing sought, which is always a point, must be shown first to be in one circumference given in position, and then in another: no circumstances but these must be admitted as giving a determination. Thus narrowed, the principles of the antient analysis would have applied to these, as to any other geometrical investigation.

With respect to the practical purposes that may be served by these constructions, and their utility to instrument makers, we confess that we are not very sanguine in our hopes. Though the considerations already suggested concerning the superior accuracy of the compasses to the *rule* are no doubt just, yet it is of such importance in practice to describe as few arches, or to make as few intersections as possible, that the tentative methods, except in a small number of very simple cases, are always likely to be preferred. Besides, since the introduction into astronomy of circular instruments, which can be made to turn completely round on an axis, mechanical methods of dividing an arch have occurred, that, to speak practically, do very much exceed in simplicity and accuracy any of the constructions derived from pure geometry.

There are, however, other graphical operations, where great advantage might be derived from adopting Mascheroni's constructions. Such are the figures for determining the phenomena of

eclipses; constructions of spherical triangles; projections of the sphere, whether for the purposes of astronomy or geography; and the like. In all of these, great accuracy is required; and it is therefore of consequence to dispense, as much as possible, with the drawing of straight lines. But whatever be true with respect to the practical utility of this little work, it is certain that few volumes of its size contain more novelty, and a greater number of propositions, that, if not very profound, are better entitled to the praise of ingenuity.

Some verses prefixed to the book, and addressed *A Bonaparte Italico*, give us to understand, that the Emperor of the French studied the geometry of the compass under the direction of Mascheroni.

'Io pur ti vidi coll' invitta mano,
Che parte i regni, e a Vienna intimò pace,
Meco divider con ricurvi giri
Il curvo giro del fedel compasso.
E ti vidi assaltar le chiuse rocche
D'ardui problemi col valor d'antico
Geometra maestro, e mi sovvenne
Quando l'Alpi varcasti Annibal novo
Per liberar tua cara Italia, e tutto
Rapidamente mi passò davanti
L'anno di tue vittorie, anno che splende
Nell' abisso de' secoli qual sole.
Segui l'impresa, e coll' invitta mano
Guida all' Italia tua liberi giorni.'

These verses, especially when they are considered as the production of a geometer, will be allowed to have some merit. The praise they contain, too, is not altogether extravagant. Poetical license might entitle Mascheroni to compare his pupil to Archimedes, and historical truth to place him above Hannibal; but he should have reflected how rarely the conquerors of nations have fought in the cause of freedom, before he welcomed Bonaparte as the deliverer of his country.

The last paragraph of the book contains an acknowledgment from the author, that appears not a little singular.

'C'est ici que se termine enfin la géométrie du compas: si elle est accueillie favorablement des géomètres, et si elle peut être de quelque utilité aux artistes, aux dessinateurs, et spécialement aux ingénieurs en instrumens de mathématiques à l'usage des géographes et des astronomes, je me trouverai bien récompensé du long ennui que m'a coûté sa composition.'

Now, for a geometer who has been engaged successfully in a work of invention, one, too, of considerable variety, and but moderate extent, to complain of the *long ennui* which it has cost him,

is not very compatible, either with the activity which his science requires, or the pleasure which it is supposed to afford.

That compilers, scholiasts, and critics like ourselves, between the dullness of the authors they study, and of the commentaries they write, should often be tired to death, and devoured with *ennui*, we easily comprehend, and may be supposed to know something of the matter from our own experience; but we can hardly conceive how a man of genius, in the very act of inventing or discovering what is new, whether in art or in science, whether as a poet, a painter, or a mathematician, should be afflicted with the same disorder. It will be matter of consolation, however, to those who tread in the beaten paths of literature, where there is perhaps little room for invention, and none for discovery, to be assured that they who boast of taking a higher flight, and of viewing nature from a more elevated region, are not always much happier than themselves.

Another circumstance in the complaint of the Italian geometer, is hardly less uncommon, though to others it may not be so consolatory. There is, undoubtedly, no feeling which an author is so sure of conveying to the mind of his reader, in its full extent, as the *ennui* which he experiences in the composition of his work. The sympathy between them never fails to be perfect on this, whatever it may be on other occasions. The author may weep bitterly without drawing a tear from the eyes of the reader; and he may laugh heartily without inducing him to smile; but, if he *yawn*, the contagion is sure to take effect. This maxim, however, does not seem to be at all applicable in the present instance; for the good *Abàte*, notwithstanding the *long ennui* which his book has occasioned to himself, will never, we apprehend, excite a similar feeling in any one, who enters, with due preparation, on the study of his work.

Art. XI. *Travels from Buenos Ayres, by Potosi, to Lima.* By Anthony Zachariah Helms. With Notes by the Translator. 12mo. pp. 287. London. Phillips. 1806.

Towards the end of the reign of Charles III., the Court of Spain was persuaded to send a German metallurgist of the name of Helms, and a Swede called Baron von Nordenflycht, to South America. What led the Spanish government to this measure, was the expectation that the superior skill and information of these foreigners would enable them to introduce great improvements in the arts of mining and metallurgy into its colonies.

Helms, who had been head assayer of the mines and mint at Cracow, was declared director of the smelting-houses of Peru; and Nordenflycht, who had been the manager of a mine in the same part of Poland, was dignified with the title of director-general of the mines of Peru.

This scheme, like many other projects of the Court of Spain, produced nothing but disgrace and disappointment to every person concerned in it. The strangers found themselves invested with high sounding titles, but left without any real power. They soon quarrelled with the Spaniards, whom they were sent to instruct; and complained that all their plans and innovations were thwarted and counteracted by those whose duty it was to lend them assistance. Helms laments bitterly, in the publication before us, that his improved Idria furnaces, and his new method of amalgamation, were rejected by the Spanish overseers, whose ignorance, he says, could only be exceeded by their dishonesty, and whose interest it unfortunately was, not to correct, but to preserve the abuses which he endeavoured to reform. What became of Baron von Nordenflycht we are not informed; but Helms quitted his office in disgust, and embarked at Callao for Europe, after a residence of three years in America. On his arrival in Spain in 1793, he applied to the government for a pension, in reward of his services and disappointments; and after much solicitation, he obtained one. In 1798 he published, in German, a short account of his travels, from which extracts have already appeared in several English publications. But the interest excited at present by the capture of Buenos Ayres has at length induced some one to translate the complete work into English, and to publish it with notes and additions, calculated to meet the public curiosity about South America.

The value of this publication lies in a very narrow compass. It is the latest account of the countries through which the author travelled. It has the form of a journal, and is written in a plain, unassuming style, which creates a prejudice in favour of its truth. But the information which it contains, in every respect, except in the distances of places through which the author passed, is wonderfully scanty. It is indeed incredible, that any person should have lived so long in Peru, and given so meagre an account of his travels. But though his book affords little amusement or instruction, it has every appearance of being an authentic report of what its author saw and believed to be true. It is nevertheless very carelessly put together; and the statements given in one part of it are sometimes at variance with the statements of another part. The mineralogy of the book has been altered and abridged by the translator; so that

it would be unfair to give any opinion of it in its present mutilated form. The remarks of the author on the manners and customs of the inhabitants of South America are not very numerous, and are chiefly remarkable on account of his character of the Indians, which is very different in some respects from that of other travellers. He has still more rarely indulged himself in reflections of a political nature; and the few with which he has favoured us are such as readily to console us for the want of more.

We shall follow our author in his journey across the wilds and mountains of South America, extracting such particulars as appear to us of the greatest moment, and occasionally interspersing our own observations.

Of Buenos Ayres, M. Helms gives no account whatever, except that it contains from 24,000 to 30,000 inhabitants; a statement which we believe to be under the truth. The *Viagero Universal*, a work published at Madrid in 1802, and very exact in many of its details with regard to the Spanish colonies, states the population of Buenos Ayres at near 40,000 souls; and that of the country, subject to its jurisdiction, at somewhat less than as many more. This statement, which we have reason to believe is correct, agrees with that of Sir Home Popham, who estimates the whole population of his conquest at 70,000 souls.

On the 29th of October 1789, M. Helms and his companions set out from Buenos Ayres for Lima, in carriages, by the ordinary post: and at the distance of seventy three geographical miles from that capital, they entered on the *Pampas*, or uncultivated plains, which extend about 300 miles from east to west to the mountains of Chili, and 1500 miles from north to south into Patagonia. These plains are in some places parched and barren; in others, they are fertile, and covered with very high grass; but for the most part they are uninhabited, and destitute of trees. They are the abode of innumerable herds of wild oxen, horses, ostriches, and other animals, which, under the shade of the grass, find protection from the intolerable heat of the sun. They are frequented by the Spanish hunters, for the sake of the animals which inhabit them; and they are infested by tribes of savage Indians, who sometimes attack the Spanish caravans bound to Peru and Chili, and often plunder and assassinate solitary travellers, who attempt the dangers of the way alone. This neighbourhood, it must be confessed, is not very tempting to our merchants, and holds out none of those prospects of immediate advantage which have been contemplated in the conquest of Buenos Ayres. Ostrich feathers, hides and tallow, it is true, are valuable articles of exportation; but the present inhabitants of the *Pampas* will, it is

feared, afford but a small opening for mercantile speculation. They are thus described by Mr Helms.

'The wild Indians have no intercourse with the civilized Indians or the Spaniards, and are in the highest degree dirty, savage, mistrustful, and treacherous: they are strong and enterprizing, but easily dismayed on the approach of danger. They have no weapons, but a sling or rope, six ells in length, with an angular stone, or a piece of lead, fastened to the end of it, with which they endeavour to give their enemy a blow from behind; and they are in general so expert in its use, and have such command of their horses, that they seldom miss the object aimed at.'

After a journey of 468 miles from Buenos Ayres, the greater part of it over the *Pampas*, Helms and his companions arrived at Cordova, the first town upon their road to Lima. Cordova contains about 1500 Spaniards and creoles, and 4000 negroes. It is situated in the midst of a cultivated and populous country; but at the distance of 60 miles from Cordova, on the road to Tucuman, a barren, saline plain begins, which continues for more than 200 miles.

The next town after Cordova was Tucuman. This is a small town 450 miles from Cordova; and consequently more than 900 miles from Buenos Ayres. Mines of gold and silver begin to abound about Tucuman; but there is still a distance of 700 miles to the rich and celebrated mines of Potosi. The chief wealth of Cordova and Tucuman consists in their mules and cattle; and their chief commerce arises from their situation between Buenos Ayres and Peru.

The country, to the north of Buenos Ayres, presents as gloomy a prospect to our commercial adventurers, as the *Pampas* and plains of Tucuman, over which Mr Helms and his associates travelled. Santa Fè, on the Paranà the nearest town to Buenos Ayres in that direction, is at the distance of 300 miles; and Corrientes, on the same river, is at least as much farther off. Both of them are inconsiderable places, without commerce, or any objects of exchange, except mules and oxen. Buenos Ayres owes, in fact, its present wealth and population, not so much to the territory which surrounds it, as to its accidental and artificial station of being the capital and seat of government, in the most extensive viceroyalty of Spanish America, and to its having become, in consequence of that circumstance, the emporium between Spain and Potosi. Deprive it of its artificial preeminence, and it must be reduced to its natural resources, which are confined to a fertile, but uncultivated soil; and to immense plains, destitute of trees, but abounding in live stock and game.

We shall here insert M. Helms's character of the Indians.

Our readers will observe how materially it differs from the account usually given of that race of people, especially in what relates to their intellectual capacity, and to their industry, and endurance of fatigue.

'The colour of the Indians resembles dark bronze; they have an agreeable physiognomy, and muscular limbs; they are of a middle stature, and endowed with an excellent understanding, but rather of a melancholy than lively disposition. They are the most laborious and industrious class of the community, and are therefore the persons employed through the greatest part of South America in domestic service, and in the labours of the field, as well as in the mines. To the labour of the Indians, we are indebted for all the gold and silver brought from Spanish America. They are more robust than the Europeans, or even the Negroes, neither of whom can endure the alternations of heat and cold in the mining countries, nor support the fatigues of working the mines.'

At Salta, the capital of the province of Tucuman, a place of considerable trade, with a population of 9000 inhabitants, the more elevated mountains of the Cordilleras begin. Here Mr Helms and his companions were forced to quit their carriages, and betake themselves to mules for the rest of their journey. They were now about 1200 miles from Buenos Ayres, and had still 1800 miles to travel before they could get to Lima.

The celebrated mines of Potosi are 1617 geographical, and 1873 English miles from Buenos Ayres. The greatest part of this journey is through a barren uncultivated country, and the last 400 miles of it are over mountains very difficult to pass, there being often no other road but the bed of a torrent. It must therefore be a very hazardous enterprize for an enemy to penetrate from Buenos Ayres to Potosi, and quite impossible, if any resistance be opposed to it. The true road to Potosi is not through Buenos Ayres, but by Peru; not through the country to which it has been artificially annexed, but through that on which it depends for its subsistence.

Nothing can be more dismal than the country about Potosi. The valleys are entirely destitute of wood, and nothing grows on the shelves and declivities of the mountains but moss. The summits of the mountains are covered with perpetual snow. But in this desolate country, nature has placed some of the richest mines of silver known in the world. The annual produce of these mines, at present, does not exceed 550,000 or 600,000 marks of silver; but, in the opinion of Mr Helms, 'if they were wrought with but moderate skill and diligence, they would yield, every year, twenty, and even thirty, millions of dollars.' The ignorance of the Spaniards at Potosi, in the art of mining, he describes as ex-

cessive; and represents their mode of conducting the 'operations of stamping, sifting, washing, quickening and roasting the ore, as most slovenly, wasteful, and unscientific.' Their process of amalgamation is so defective, 'that they are scarce able to extract two thirds of the silver contained in the ore; and, for every mark of pure silver which they obtain, they lose one, and frequently two marks of quicksilver.

We apprehend there is a gross error in page 50, where it is said, 'that the revenue to the king, from the mines in the kingdom of La Plata, amounts annually to four millions and a half of piastres:' For the whole produce of these mines, as given in page 48 and page 141, does not exceed that sum; and we doubt much whether there be a single mine in Potosi worked on account of the King. The royal duties from the mines of Potosi, are from 300,000 to 400,000 dollars a year, and the profits from the royal bank *de rescate*,* do not exceed 40,000 dollars a year. The mint of Potosi, it is true, brings in about 300,000 dollars a year to the crown; but, from this sum, must be deducted the expense of the establishment, as from the gross amount of the royal duties must be taken the expense of collecting them. On the whole, the clear revenue of the kingdom of La Plata, arising from its mines, and applicable to the other expenses of its government, cannot exceed an eighth part of the sum mentioned by Helms; and of this, not a penny reaches Madrid. The civil and military establishment of the viceroyalty of Buenos Ayres, which includes Potosi, consumes the whole, if not more than the whole, of its revenue.

We suspect, also, that Mr Helms has greatly exaggerated the population of Potosi, which he estimates at 100,000 souls. If this were true, Potosi would be the most populous city in the Spanish part of South America, and would contain nearly twice as many inhabitants as Lima, the capital of Peru. Alcedo reckons its population at 25,000 souls.

Many of the cities between Potosi and Cuzco, have not yet recovered from the destruction which they suffered during the insurrection of the Indians in 1779. We regret, with the translator, that Mr Helms has not given us a circumstantial account of this insurrection. We have understood that it failed in its object, which was the emancipation of Peru, only in consequence of the excesses and pernicious views of those who took part in it. All classes were at first disposed in its favour; but when it was

* The bank *de rescate*, is an establishment for making loans, on certain terms, to poor miners, begun, originally, by the subscription of private adventurers, but now belonging to the crown.

converted from an insurrection against the Spanish government, into a general war against property, the Creoles of rank and fortune joined themselves to the government, and enabled it to put down the insurgents.

The royal mine of quicksilver at Guencavelica, yields at present only 1500 quintals of quicksilver annually. Each quintal costs the king 166 dollars, and he sells it for 73 to the undertakers of the mines. He loses by this traffic, according to Mr Helms, 200,000 dollars annually. This estimate, our readers will perceive, does not agree with the preceding data; but we are unable to rectify the error. The great vein of cinnabar at Guencavelica, was eighty Spanish ells in extent, and had been sunk to the depth of 600 fathoms, before the irregular and unskilful manner of working it made the pit fall in. It is singular, that of the three greatest mines of quicksilver in the world, viz. Guencavelica in Peru, Almaden in the Sierra Morena, and Idria in Carniola, two should be in the dominions of the King of Spain. One of the difficulties to be encountered in the emancipation of Spanish America, is to find a supply of quicksilver for its mines. Mexico is, in this respect, less fortunate than Peru. The mine of Guencavelica, if properly worked, would render Peru and Potosi independent of all other countries for their quicksilver. But there are no mines of quicksilver in Mexico; none at least of which have been worked to advantage. No resource would remain to Mexico, if separated from the mother country, but to import quicksilver from China, where, fortunately, it can be obtained of a better quality, and a cheaper rate, than at Trieste.

Lima, the capital of Peru, has declined, in population, from 70,000 souls to about 50,000 souls. Mr Helms ascribes this to the decay of trade in Peru; and the decay of trade to the free commerce, which has glutted the South American markets with European goods. But the decline of trade which he laments is quite imaginary, and contradicted by the customhouse books of Callao; and the cause which he assigns for it is more likely to ruin the merchants of Cadiz than those of Lima. This is not the only instance where Mr Helms has been the dupe of idle clamours, and has repeated the most absurd tales and senseless fabrications. His own veracity becomes a little suspected, when he tells us, in page 90, that a Spanish governor charged 25 dollars to the King for 100 bricks, which cost only half a dollar when made by Mr Helms. We believe that great frauds are practised against the King of Spain by his servants in America; but we confess that such an enormous fraud as this staggers completely our faith, and begins to lessen our confidence in Mr Helms. Matters are not improved, when, in page 103, we are told, that

in the mines of Guantajaya near Arequipa, 'a common drinking glass full of water is sometimes sold at the rate of a piastre !!'

'From authentic registers transmitted to the governors of the different provinces, it appears that, from the first of January to the 31st of December 1790, they coined, in the royal mints,

	In Gold Dollars.	*In Silver Dollars.*	*Total Dollars.*
At Mexico -	628,044	17,435,644	18,063,688
At Lima - -	821,168	4,341,071	5,162,239
At Potosi - -	299,846	3,983,176	4,283,022
At Santiago -	721,754	146,132	867,886
Total	2,470,812	25,906,023	28,376,835

'If to these sums we add the gold and silver fabricated into various utensils for churches, convents and private persons, and the sums clandestinely exported by the merchants without being coined,' * we shall raise the whole produce of the mines to '50 or more millions of piastres, which are annually brought to Europe from the Spanish colonies of America.' †

On these estimates and conclusions, various observations might be offered. In the first place, the coinage of Lima, in page 141, does not agree with the account given of the same coinage in page 102; of which any one may satisfy himself by calculation, recollecting that there are 8½ dollars in the mark of silver. In the second place, Mr Helms has omitted all mention of the mints of Popayan and Santa Fé, where more than two millions of dollars are coined annually. But his allowance for the quantity of gold and silver not carried to the mints, is so extravagantly great, that his estimate on the whole exceeds, rather than falls short of the truth. We doubt much whether the mines of Spanish America produce more than eight millions Sterling annually of the precious metals. We know, that the gold and silver imported into Spain, in the years 1795 and 1796, taken together, did not much exceed nine millions Sterling, according to the report of the customhouse books. It is true, that in 1802, the importation of gold and silver into Cadiz alone, amounted to 41,217,531 dollars; but this was after a long period of war, during which the trade of Spain with her American colonies had been much interrupted. Accordingly, in 1803, the importation of gold and silver into Cadiz was reduced to 29,205,987 dollars, or about six millions Sterling.

It only remains for us to notice the appendix which the translator has annexed to Mr Helms's book, and of which, he tells us 'he may, without vanity, assert, that it contains the fullest and

* Page 141. † Page 76.

most correct account of Spanish America which exists in any European language. How far the translator's work justifies this eulogy of his performance, our readers will be able to judge from the following specimens.

1. In pages 150, 151, 152, 153, he has mistaken reals *de vellon* for reals *de plata*, in reducing to English money the sums given by M. Bourgoing, in his tables of the exports and imports of Spanish America. The real *de plata* is equal to 2½ reals *de vellon*.

2. In page 171, he tells us, that 'in commerce the Spaniards gave the name of *piastre* to the common Spanish dollar, and that it passes, in Spain, for three shillings and seven pence.' We can assure him that there is no such word as *piastre* in the Spanish language; and as the dollar is worth four shillings and sixpence out of Spain, we are rather inclined to suspect that it passes for more than three shillings and seven pence in Spain.

3. In page 213, he gravely informs us, that there are two roads from Monte Video to Buenos Ayres, the one by water, and the other by *land!*

4. In his zeal to vindicate the Jesuits from the attacks of the 'self-called French philosophers,' he argues, that the motive which led that disinterested fraternity to found an empire in Paraguay, was the desire to rescue the savages from 'the avidity of a few unprincipled merchants, who went among them for the purposes of plunder;' and he adds, that 'the outrages committed towards the Indians by those adventurers, have been recently proved by Mackenzie and other well informed travellers.' We humbly submit to the translator, that the scene of Mackenzie's travels was, not Paraguay, but the country about Hudson's Bay; and that Mackenzie did not commence his travels till the Jesuits had been suppressed for more than twenty years, and not for a hundred years at least after the foundation of their empire in South America. The countrymen of Mr Mackenzie have long claimed the privilege of seeing further into futurity than other people; but we believe this to be the first instance where they have been produced as evidence of transactions that took place before they were born.

ART. XII. *A Comparative View of the New Plan of Education promulgated by Mr Joseph Lancaster, in his Tracts concerning the Instruction of the Children of the Labouring Part of the Community; and of the System of Christian Education founded by our pious Forefathers for the initiation of the Young Members of the Established Church in the Principles of the Reformed Religion.* By Mrs Trimmer. 8vo. pp. 152. 1805.

THIS is a book written by a lady who has gained considerable reputation at the corner of St Paul's Church-yard; who flames in the van of Mr Newberry's shop; and is, upon the whole, dearer to mothers and aunts than any other author who pours the milk of science into the mouths of babes and sucklings. Tired at last of scribbling for children, and getting ripe in ambition, she has now written a book for grown up people, and selected for her antagonist as stiff a controversialist as the whole field of dispute could well have supplied. Her opponent is Mr Lancaster, a Quaker, who has lately given to the world new and striking lights upon the subject of Education, and come forward to the notice of his country by spreading order, knowledge, and innocence among the lowest of mankind.

Mr Lancaster, she says, wants method in his book; and therefore her answer to him is without any arrangement. The same excuse must suffice for the desultory observations we shall make upon this lady's publication.

The first sensation of disgust we experienced at Mrs Trimmer's book, was from the patronizing and protecting air with which she speaks of some small part of Mr Lancaster's plan. She seems to suppose, because she has dedicated her mind to the subject, that her opinion must necessarily be valuable upon it; forgetting it to be barely possible, that her application may have made her more wrong, instead of more right. If she can make out her case, that Mr Lancaster is doing mischief in so important a point as that of national education, she has a right, in common with every one else, to lay her complaint before the public; but a right to publish praises must be earned by something more difficult than the writing sixpenny books for children. They may be very good; though we never remember to have seen any one of them; but if they be no more remarkable for judgment and discretion, than parts of the work before us, there are many thriving children quite capable of repaying the obligations they owe to their amiable instructress, and of teaching, with grateful retaliation, 'the *old* idea how to shoot.'

In remarking upon the work before us, we shall exactly follow the plan of the authoress, and prefix, as she does, the titles of

those subjects on which her observations are made; doing her the justice to presume, that her quotations are fairly taken from Mr Lancaster's book.

Mr Lancaster's Preface.—Mrs Trimmer here contends, in opposition to Mr Lancaster, that ever since the establishment of the Protestant Church, the education of the poor has been a national concern in this country; and the only argument she produces in support of this extravagant assertion, is an appeal to the act of uniformity. If there are millions of Englishmen who cannot spell their own names, or read a sign-post which bids them turn to the right or left, is it any answer to this deplorable ignorance to say, there is an act of Parliament for public instruction? —to show the very line and chapter where the King, Lords, and Commons, in Parliament assembled, ordained the universality of reading and writing, when, centuries afterwards, the ploughman is no more capable of the one or the other than the beast which he drives? In point of fact, there is no Protestant country in the world where the education of the poor has been so grossly and infamously neglected as in England. Mr Lancaster has the very high merit of calling the public attention to this evil, and of calling it in the best way, by new and active remedies; and this uncandid and feeble lady, instead of using the influence she has obtained over the anility of these realms, to join that useful remonstrance which Mr Lancaster has begun, pretends to deny that the evil exists; and when you ask where are the schools, rods, pedagogues, primmers, histories of Jack the Giant-killer, and all the usual apparatus for education, the only thing she can produce is *the act of uniformity and common prayer.*

2. *The Principles on which Mr Lancaster's institution is conducted.* —"Happily for mankind," says Mr Lancaster, "it is possible to combine precept and practice together in the education of youth: that public spirit, or general opinion, which gives such strength to vice, may be rendered serviceable to the cause of virtue; and in thus directing it, the whole secret, the beauty, and simplicity of national education consists. Suppose, for instance, it be required to train a youth to strict veracity. He has learnt to read at school: he there reads the declaration of the Divine will respecting liars: he is there informed of the pernicious effects that practice produces on society at large; and he is enjoined, for the fear of God, for the approbation of his friends, and for the good of his schoolfellows, never to tell an untruth. This is a most excellent precept; but let it be taught, and yet, if the contrary practice be treated with indifference by parents, teachers, or associates, it will either weaken or destroy all the good that can be derived from it: But if the parents or teachers tenderly nip the rising shoots of vice; if the associates of youth pour contempt on the liar; he will soon hide his head with shame, and most likely leave off the practice." p. 24. 25.

The objection which Mrs Trimmer makes to this passage, is, that it is *exalting the fear of man above the fear of God.* This observation is as mischievous as it is unfounded. Undoubtedly the fear of God ought to be the paramount principle from the very beginning of life, if it were possible to make it so; but it is a feeling which can only be built up by degrees. The awe and respect which a child entertains for its parent and instructor, is the first scaffolding upon which the sacred edifice of religion is reared. A child *begins* to pray, to act, and to abstain, not to please God, but to please the parent, who tells him that such is the will of God. The religious principle gains ground from the power of association and the improvement of reason; but without the fear of man,—the desire of pleasing, and the dread of offending those with whom he lives,—it would be extremely difficult, if not impossible, to cherish it at all in the mind of children. If you tell (says Mr Lancaster) a child not to swear, because it is forbiden by God, and he finds every body whom he lives with addicted to that vice, the mere precept will soon be obliterated; which would acquire its just influence if aided by the effect of example. Mr Lancaster does not say that the fear of man ever *ought* to be a stronger motive than the fear of God, or that, in a thoroughly formed character, it ever *is*: he merely says, that the fear of man may be made the most powerful mean to raise up the fear of God; and nothing, in our opinion, can be more plain, more sensible, or better expressed, than his opinions upon these subjects. In corroboration of this sentiment, Mr Lancaster tells the following story.

"A benevolent friend of mine," says he "who resides at a village near London, where he has a school of the class called *Sunday Schools*, recommended several lads to me for education. He is a pious man, and these children had the advantage of *good precepts* under his instruction, in *an eminent degree*, but had reduced them to very little practice. As they came to my school from some distance, they were permitted to bring their dinners; and, in the interval between morning and afternoon school-hours, spent their time with a number of lads under similar circumstances in a play-ground adjoining the school-room. In this play-ground the boys usually enjoy an hour's recreation; tops, balls, races, or what best suits their inclination or the season of the year; but with this charge, "Let all be kept in innocence." These lads thought themselves very happy at play with their new associates; but on a sudden they were seized and overcome by numbers, were brought into school just as people in the street would seize a pickpocket, and bring him to the police office. Happening at that time to be within, I inquired, "Well, boys, what is all this bustle about?"—"Why, Sir," was the general reply, "these lads have been swearing." This was announced with as much emphasis and solemnity as a judge would use in passing sen-

tence upon a criminal. The culprits were, as may be supposed, in much terror. After the examination of witnesses and proof of the facts, they received admonition as to the offence; and, on promise of better behaviour, were dismissed. No more was ever heard of their swearing; yet it was observable, that they were better acquainted with *the theory of Christianity*, and could give a more rational answer to *questions from the scripture*, than several of the boys who had thus treated them, on comparison, *as constables would do a thief.* "I call this," adds Mr Lancaster, "*practical religious instruction*, and could, if needful, give many such anecdotes." p. 26. 27.

All that Mrs Trimmer has to observe against this very striking illustration of Mr Lancaster's doctrine, is, that the monitors behaved to the swearers in a very rude and unchristianlike manner. She begins with being cruel, and ends with being silly. Her first observation is calculated to raise the *posse comitatus* against Mr Lancaster, to get him stoned for impiety; and then, when he produces the most forcible example of the effect of opinion to encourage religious precept, she says, such a method of preventing swearing is too rude for the gospel. True, modest, unobtrusive religion—charitable, forgiving, indulgent Christianity, is the greatest ornament and the greatest blessing that can dwell in the mind of man. But if there is one character more base, more infamous, and more shocking than another, it is him who, for the sake of some paltry distinction in the world, is ever ready to accuse conspicuous persons of irreligion—to turn common informer for the church—and to convert the most beautiful feelings of the human heart to the destruction of the good and great, by fixing upon talents, the indelible stigma of irreligion. It matters not how trifling and how insignificant the accuser; cry out that the *church is in danger*, and your object is accomplished; lurk in the birdcage walk of hypocrisy, to accuse your enemy of the unnatural crime of Atheism, and his ruin is quite certain; acquitted or condemned, is the same thing; it is only sufficient that he be accused, in order that his destruction be accomplished. If we could satisfy ourselves that such were the real views of Mrs Trimmer, and that she were capable of such baseness, we would have drawn blood from her at every line, and left her in a state of martrydom more piteous than that of St Uba. Let her attribute the milk and mildness she meets with in this review of her book, to the conviction we entertain, that she knew no better—that she really did understand Mr Lancaster as she pretends to understand him—and that if she had been aware of the extent of the mischief she was doing, she would have tossed the manuscript spelling book in which she was engaged, into the fire, rather than have done it. As a proof that we are earnest in speaking of Mrs Trimmer's simplicity, we must state the objection she makes to one of Mr

Lancaster's punishments. 'When I meet,' says Mr Lancaster, 'with a slovenly boy, I put a label upon his breast, I walk him round the school with a tin or a paper crown upon his head.' 'Surely,' says Mrs Trimmer (in reply to this), 'surely it should be remembered, that *the Saviour of the world was crowned with thorns, in derision, and that this is a reason why crowning is an improper punishment for a slovenly boy' !!!*

Rewards and Punishments.—Mrs Trimmer objects to the fear of ridicule being made an instrument of education, because it may be hereafter employed to shame a boy out of his religion. She might, for the same reason, object to the cultivation of the reasoning faculty, because a boy may hereafter be reasoned out of his religion: she surely does not mean to say that she would make boys insensible to ridicule, the fear of which is one curb upon the follies and eccentricities of human nature. Such an object it would be impossible to effect, even if it were useful: Put an hundred boys together, and the fear of being laughed at, will always be a strong influencing motive with every individual among them. If a master can turn this principle to his own use, and get boys to laugh at vice, instead of the old plan of laughing at virtue, is he not doing a very new, a very difficult, and a very laudable thing?

When Mr Lancaster finds a little boy with a very dirty face, he sends for a little girl, and makes her wash off the dirt before the whole school; and she is directed to accompany her ablutions with a gentle box of the ear. To us, this punishment appears well adapted to the offence; and in this, and in most other instances of Mr Lancaster's interference in scholastic discipline, we are struck with his good sense, and delighted that arrangements apparently so trivial, really so important, should have fallen under the attention of so ingenious and so original a man. Mrs Trimmer objects to this practice, that it destroys female modesty, and inculcates in that sex, *an habit of giving boxes on the ear.*

'When a boy gets into a singing tone in reading,' says Mr Lancaster, 'the best mode of cure that I have hitherto found effectual, is by the *force* of ridicule.—Decorate the offender with matches, ballads, (dying speeches if needful); and in this garb send him round the school, with some boys before him crying matches, &c. exactly imitating the dismal tones with which such things are hawked about London streets, as will readily recur to the reader's memory. I believe many boys behave rudely to Jews more on account of the manner in which they cry "old clothes," than because they are Jews. I have always found excellent effects from treating boys, who sing or tone in their reading, in the manner described. It is sure to turn the laugh of the whole school upon the delinquent; it provokes risibility, in spite of every endeavour

to check it, in all but *the offender.* I have seldom known a boy thus punished once, for whom it was needful a second time. It is also very seldom that a boy deserves both a log and a shackle at the same time. Most boys are wise enough, *when under* one punishment, not to transgress immediately, lest it should be doubled.' p. 47—8.

This punishment is objected to on the part of Mrs Trimmer, because it inculcates a dislike to Jews, and an indifference about dying speeches! Toys, she says, given as rewards, are worldly things; children are to be taught that there are eternal rewards in store for them. It is very dangerous to give prints as rewards, because prints may hereafter be the vehicle of indecent ideas. It is, above all things, perilous to create an order of merit in the borough school, because it gives the boys an idea of the origin of nobility, '*especially in times* (we use Mrs Trimmer's own words) *which furnish instances of the extinction of a race of antient nobility, in a neighbouring nation, and the elevation of some of the lowest people to the highest stations. Boys accustomed to consider themselves the nobles of the school, may, in their future lives, form a conceit of their own merits* (*unless they have very sound principles*), *aspire to be nobles of the land, and to take place of the hereditary nobility.*'

We think these extracts will sufficiently satisfy every reader of common sense, of the merits of this publication. For our part, when we saw these ragged and interesting little nobles, shining in their tin stars, we only thought it probable that the spirit of emulation would make them better sangers, ushers, tradesmen, and mechanics. We did, in truth, imagine we had observed, in some of their faces, a bold project for procuring better breeches for keeping out the blasts of heaven, which howled through those garments in every direction, and of aspiring, hereafter, to greater strength of seam, and more perfect continuity of cloth: But for the safety of the titled orders, we had no fear; nor did we once dream that the black rod which whipt these dirty little dukes, would one day be borne before them as the emblem of legislative dignity, and a sign of noble blood.

Order.—The order Mr Lancaster has displayed in his school, is quite astonishing. Every boy seems to be the cog of a wheel—the whole school a perfect machine. This is so far from being a burden or constraint to the boys, that Mr Lancaster has made it quite pleasant and interesting to them, by giving to it the air of military arrangement; not foreseeing, as Mrs Trimmer foresees, that in times of public dangers, this plan furnishes the disaffected with the immediate means of raising an army; for what have they to do but to send for all the children educated by Mr Lancaster, from the different corners of the kingdom into which they are dispersed,—to beg it as a particular favour of them to fall into the same order as they ad-

opted in the spelling class twenty-five years ago; and the rest is all matter of course—

Jamque faces, et Saxa volant.

The main object, however, for which this book is written, is to prove that the church establishment is in danger, from the increase of Mr Lancaster's institutions. Mr Lancaster is, as we have before observed, a Quaker. As a Quaker, he says, I cannot teach your creeds; but I pledge myself not to teach my own. I pledge myself (and if I deceive you, desert me, and give me up) to confine myself to those points of Christianity in which all Christians agree. To which Mrs Trimmer replies, that, in the first place, he cannot do this; and, in the next place, if he did do it, it would not be enough. But why, we would ask, cannot Mr Lancaster effect his first object? The practical and the feeling parts of religion, are much more likely to attract the attention, and provoke the questions of children, than its speculative doctrines. A child is not very likely to put any questions at all to a catechizing master, and still less likely to lead him into subtle and profound disquisition. It appears to us not only practicable, but very easy, to confine the religious instruction of the poor, in the first years of life, to those general feelings and principles which are suitable to the established church, and to every sect; afterwards, the discriminating tenets of each subdivision of Christians may be fixed upon this general basis. To say that this is not enough, that a child should be made an Antisocinian, or an Antipelagian, in his tenderest years, may be very just; but what prevents you from making him so? Mr Lancaster, purposely and intentionally, to allay all jealousy, leaves him in a state as well adapted for one creed as another. Begin; make your pupil a firm advocate for the peculiar doctrines of the English church; dig round about him, on every side, a trench that shall guard him from every species of heresy. In spite of all this clamour, you do nothing; you do not stir a single step; you educate alike the swineherd and his hog;—and then, when a man of real genius and enterprize rises up, and says, let me dedicate my life to this neglected object; I will do every thing but that which must necessarily devolve upon you alone;—you refuse to do your little; and compel him, by the cry of Infidel and Atheist, to leave you to your antient repose, and not to drive you, by insidious comparisons, to any system of active utility. We deny, again and again, that Mr Lancaster's instruction is any kind of impediment to the propagation of the doctrines of the church; and if Mr Lancaster was to perish with his system to-morrow, these boys would positively be taught nothing; the doctrines which Mrs Trimmer considers to be prohibited would not rush in, but there would be an absolute vacuum.

We will, however, say this in favour of Mrs Trimmer, that if every one who has joined in her clamour, had laboured one hundredth part as much as she has done in the cause of national education, the clamour would be much more rational, and much more consistent, than it now is. By living with a few people as active as herself, she is perhaps somehow or another persuaded that there is a national education going on in this country. But our principal argument is, that Mr Lancaster's plan is at least better than the *nothing* which preceded it. The authoress herself seems to be a lady of respectable opinions, and very ordinary talents; defending what is right without judgment, and believing what is holy without charity.

Art. XIII. *The Miseries of Human life; or, the Groans of Timothy Testy, and Samuel Sensitive; with a few Supplementary Sighs from Mrs Testy. In Twelve Dialogues.* Miller, London. 1806.

This terrific title, with the subjoined catalogue of pitiable exclamations, would lead a native of any country but England to expect a heart-rending tale of accumulated woe. A Frenchman would prepare to shake his head, and shrug up his shoulders at the unobserved calamities of some love-sick heroine; a German would instantly feel his heart expand with all the sensitiveness of philanthropy, and the tear would stand ready to start from his eye, at the thought of beholding all the hopeless errors and unalloyed misery of man, feelingly depicted by the nervous hand of sentimental philosophy. But to a thorough indigenous independent Briton, the word 'misery' does by no means convey an idea of such extreme discomfort. He feels the satisfaction of grumbling over his misfortunes, to be, on many occasions, so much greater than the pain of enduring them, that he will beg, borrow, steal, or even manufacture calamities, sooner than suffer under any unusual scarcity of discontent. He knows, indeed, that miseries are necessary to his happiness, and though perhaps not quite so pleasant at the moment as his other indispensable enjoyments roast beef and beer, would, if taken away, leave just as great a craving in his appetites as would be occasioned by the privation of these national dainties.

The Englishman alone, we think, occupies himself seriously in this manufacture of unhappiness; and seems to possess, almost as exclusively, the power of afterwards laughing at his own misfortunes; which, however, during their immediate existence, gave him as much torment as ever the crushing an earwig, or

beating a jackass, inflicted on the sensibility of a lacrymose German. It is the English only who submit to the same tyranny, from all the incidental annoyances and petty vexations of the day, as from the serious calamities of life. In Ben Jonson's time, it was an unmeaning humour 'to be gentleman-like and melancholy.' We believe it is since those days that a cause for that melancholy has been invented. It is only by the present race that the drawing on tight boots, or the extinguishing a candle under your nose, has been found entirely to embitter life. These trifling uneasinesses, are now dwelt and commented upon, in conversation, as of the highest importance; are considered an excuse for spleen or ill nature, and, sometimes, almost a reason for doubting the beneficence of Nature altogether. These restless concomitants of life, are only valued and cultivated in our gloomy atmosphere. The lively Frenchman either passes them unnoticed, or, if he does perceive them, only moulds them into a pleasantry to amuse his next companion. The haughty Spaniard will not suffer his gravity and grandeur to be broken in upon by such paltry considerations. The quiet Scotchman patiently endures them without knowing them to be evils; or if he by chance receives annoyance, hereafter goes round about to avoid them. The violent Irishman either passionately throws them off in an instant, or persuades himself it is comfort and amusement to him to let them continue; the phlegmatic Dutchman hides them from his view by the smoke of his pipe; while the philosophizing German, who only feels for all mankind, thinks every thing a trifle that affects himself. The sombre Englishman alone contents himself with grumbling at the evils, which he takes no steps to avoid; and perhaps the proneness to suicide, that is objected to John Bull by foreigners, might more reasonably be attributed to this indulgence in unhappiness, and domestication of misery, than to the influence of fogs, or the physical effects of sea-coal fires.

These are the miseries of which the author before us treats; and it is a subject which, in some point or other, must come home to every Englishman. He enters upon this rich field, in an address, inviting the miserable, (but, we must remark, inviting nobody else) the 'children of misfortune, wheresoever found, and whatsoever enduring,—ye who, arrogating to yourselves a kind of sovereignty in suffering, maintain, that all the throbs of torture, all the pungency of sorrow, all the bitterness of desperation, are your own. Take courage to behold a pageant of calamities, which calls you to renounce your sad monopoly!' We are then presented with Samuel Sensitive and Timothy Testy. Any formality of introduction is dispensed with; for the author knew

that he could meet with no reader, who was not before acquainted with one or other of these gentlemen. For though Mr Sensitive be of a family comparatively modern, (not being naturalized in this country, apparently in the days of the Dutchess of Bedford, who declared that 'she was born before nerves were invented,') yet there can be nobody, of any age, who has not often met with a branch of the stock of Testy; which we believe, indeed, flourished in this island even before the Conqueror. Indeed, the gentleman himself is so often to be met with, equally in the worst as in the best company, that it is no wonder the author, in his subsequent delineation of the character of Mr Sensitive, should forget 'all those finer disquietudes, those quivering susceptibilities, that feverish fastidiousness, and those qualmish recoiling disgusts which constitute at once the pride and the plague of *his* gossamer frame.' We are not surprised that Testy's gross form and active dislikes were continually present to the author, and entirely obliterated the meek agitations of Sensitive. For this has certainly been the case; and, however strongly the distinction may strike us at setting out, in a little time we perceive Sensitive to be a complete fac-simile of Testy, and can sometimes hardly persuade ourselves that they are not both one and the same man. We entirely lose the distinction between the mentally miserable man, whose whole frame is jarred and thrown into a state of tremulous incapability by the falling of a dish; and him who, gross and violent under calamity, instantly knocks down the servant who dropped it.

This distinction is perhaps better exemplified by the conduct of the parties under vexation, than by any positive difference in the nature of the accidents that disorder each of them. Thus, Mr Sensitive declares to Testy, 'I, indeed, by the painful privilege of my nature, am as it were ambidexter in misery, being no less exquisitely sensitive to those grosser annoyances, or tangible tribulations, of which you are the victim, than to those subtler and elegant agonies, which are my own peculiar inheritance.' Testy, we think, might have made a declaration of the same sort; for as we go on, we find the vexations of both to be precisely the same; only the agonies, when they fix upon Testy, necessarily lose the elegance which graces his friend's tribulations. For this reason, we wish that these two gentlemen had hit upon some more lively shape in which to convey their miseries to the world, than the wearisome sameness of dialogue. Had they permitted Tom Testy, who appears in the second dialogue, or some third person, to form their misfortunes into a narrative, we have no doubt that his feeling description of all the torments they endured—of all the tears, contortions, and violent gesture by which they expressed their

sense of them, would have attracted the notice of the world much more than their own complacent vaunting of preeminence in misery. Particularly, too, as we see, all the while, that their tortures, however pungent, still left them calmness enough to enter their calamities regularly in memorandum books, though certainly not sufficient coolness of thought to correct the language and style in which they are related. We think that even Mrs Testy, though she is guilty of some vulgar expressions, might, if consulted, have remarked and amended several colloquial barbarisms, manufactured words, and incorrect phrases, which have been suffered to remain, and which, though, perhaps in conversation, no vexation to the most nervous hearer, are a considerable misery to the grossest and most sensual reader.

These two gentlemen having agreed to meet frequently, and contend for the crown of calamity, by reciting their unhappinesses in a sort of Amabean prose; we are, in the second dialogue, introduced to young Tom Testy, who comes in for the purpose of enlivening the conversation every now and then with a whimsically-applied, or, more frequently, a punning quotation. The reader now perceives his own 'misery,' in the prospect of pursuing the rest of his journey with these unvarying and discontented comrades. Now and then, indeed, a slight relief is afforded, when Mrs Testy puts in a word; but, upon the whole, she is a very quiet, well-behaved woman, and seldom speaks but when spoken to. However, there is no hope for it; the door of the conveyance is shut; the reader is boxed up with these companions; the coachman is inexorable; and, unless he has powers of self-denial to give up the journey altogether, he must, thus accompanied, and thus only, immediately enter upon the 'Miseries of the Country.' Here he indeed wants companions of a more cheerful and patient disposition; for the miseries he meets with at his outset are really no laughing matter. Here, as in many other places, Messrs Sensitive and Testy quite lose their captiousness and causeless irritability, and only complain of misfortunes that would vex, and that very effectually, any man of the greatest reason and equanimity.

'10. (T.) While you are out with a walking-party, after heavy rains—one shoe suddenly sucked off by the boggy clay; and then, in making a long and desperate stretch (which fails) with the hope of recovering it, leaving the other shoe in the same predicament:—the second stage of ruin is that of standing, or rather tottering, in blank despair, with both feet planted, ancle-deep, in the quagmire.—The last (I had almost said the dying) scene of the tragedy,—that of deliberately cramming first one, and then the other clogged polluted foot into its choaked-up shoe, after having 'scavengered' your hands and gloves in slaving to drag up each, separately, out of its deep

bed, and in this state proceeding on your walk—is too dreadful for representation. The crown of the catastrophe is, that each of the party floundering in his, or her, own gulph, is utterly disabled from assisting, or being assisted by, the rest.

'17. (T.) On paying a visit to your garden in the morning, for the purpose of regaling your eye and nose with the choice ripe fruit with which it had abounded the day before, finding that the whole produce of every tree and bush has been carefully gathered—in the night!'

'18. (S.) The delights of hay-time! as follows:—After having cut down every foot of grass upon your grounds, on the most solemn assurances of the barometer that there is nothing to fear—after having dragged the whole neighbourhood for every man, woman, and child, that love or money could procure, and thrust a rake, or a pitch-fork, into the hands of every servant in your family, from the housekeeper to the scullion—after having long overlooked and animated their busy labours, and seen the exuberant produce turned and re-turned under a smiling sun, till every blade is as dry as a bone, and as sweet as a rose—after having exultingly counted one rising haycock after another, and drawn to the spot every seizable horse and cart, all now standing in readiness to carry home the vegetable treasure, as fast as it can be piled—at such a golden moment as this, Mr Testy, to see volume upon volume of black, heavy clouds suddenly rising and advancing, in frowning columns, from the south-west; as if the sun had taken half the Zodiac—from Leo to Aquarius—at a leap:—behold the ruthless vapours!—they halt—they muster directly over head;—at the signal of a thunder-clap, they pour down their contents with a steady perpendicular discharge, and the assault is continued, without a moment's pause, till every meadow is completely got under, and the whole scene of action is a swamp. When the enemy has performed his commission by a total defeat of your hopes, when he has completely swept the field, and scattered your whole party in a panic-flight, he suddenly breaks up his forces, and retires in open order; leaving you to comfort and amuse yourself, under your loss, by looking at his colours, in the shape of a most beautiful rainbow, which he displays in his rear.'

'20. (S.) Losing your way, on foot, at night, in a storm of wind and rain—and this, immediately after leaving a merry fire-side.'

Now, we do not conceive that it is necessary to possess the unreasonable irritability of these gentlemen, to be very much discomposed at losing both your shoes in a bog; or all your fruit being stolen; or all your hay being spoilt; or losing yourself in a stormy night. These are all circumstances productive of such positive loss or ill effects, that we believe any one of them (to use a vulgar idea) might make the most meek and pious clergyman utter an oath of considerable magnitude. In the same strain, as we go on; lying awake a whole night, which is generally symptomatic of illness; sleeping in damp sheets, which is almost certainly productive of

illness; being sea-sick, which is illness; finding a hornet in your boot while putting it on, whose sting would probably lay you up; losing the *memoranda* of your dividends, by which you are disabled from receiving your money at the bank, and, perhaps, arrested in consequence—are all serious misfortunes that we think any gentleman would complain of, and be very ill treated, if his lamentations were laughed at. Indeed, we often think Messrs Testy and Sensitive not at all ridiculous and peevish, but very sensible and reasonable men, who, if they really have undergone all the grievances here related, may justly claim a preeminence of misery, not only over the fancifully unhappy, but over the really wretched, and truly afflicted part of mankind. This is defeating and destroying the prime design and groundwork of the book.

Tom Testy, who is introduced in the second dialogue, is a very agreeable addition to the company; and by no means merits the character given him by his schoolmaster, who, his father says, 'thought proper to tell me that my boy is half mad; though, for all I can see, the whole offence is, that he is a little wild or so in his way of reading; and by running from one book to another, and dashing from this part of the volume to that, has stuffed his head with more words than he knows well how to manage; and so by dint of a good memory, without brains quite enough to ballast it, he flirts out his crude scraps of authors upon all occasions, without stopping to think where he is, or who are his hearers.' This incautious young man is, however, very entertaining, and his school miseries among the best in the book.

'8. (Tom T.) Seeing the boy who is next above you flogged for a repetition, which you know you cannot say even half so well as he did.'

'14. (Tom T.) At dinner—the joint lasting only as low down as to the boy immediately above you:—you are too stout to eat bread, and so go starved, and broken-hearted, into school.'

His chief fault is, too frequent an exhibition of his talent; for, though he often produces remarkable and unexpected quotations, he seldom misses an opportunity of uttering the most trite or remotely connected. Thus, in the following.

'35. (S.) After having dealt carelessly with honey at breakfast, being hurried away, without a moment allowed for washing your hands; or—(since that cannot possibly be granted you)—for chopping them off.'

Ned Tes. "*Plus aloës quam mellis habet.*" Juv.

The plain translation of the single word '*mellis*,' hardly compensates for the total want of application of '*aloës*;' and the inaptness of the metaphorical signification of the passage affords no excuse. And in,

'35. (S.) In walking through a vile alley—passing under a win-

dow at so 'seasonable' a moment, as to intercept the liquid refuse which a foul witch is emptying from the third or fourth story.

Ned Tes. "*Insequitur cumulo præruptus aquæ mons.*" Virg.

'Tes. I fancy the words which follow soon after are not quite so applicable.' ——"*placidum caput extulit unda.*"

There is nothing at all appropriate in this passage, except the plain application of the comprehensive word '*aquæ*;' and Old Testy, in his attempt to give it a point, must have been much puzzled; since he is forced to join to it four words, which, in Virgil, are twenty lines distant, belong to another passage, and which, after all, he only quotes because they are not applicable. But Mr Thomas Testy is perpetually obliged to cram a quotation into the situation he wants, by such means as, 'Virgil never knew that when he wrote such a line;' or, 'Horace could not have said here that,' &c.; or oftener, boldly, 'We cannot apply to this the passage, which says,' &c. Nor is this young gentleman content with watching for, and torturing every occasion to his use; but will very often engross the whole conversation, to make himself an opportunity for wit, and bring us round to a jest by degrees. Thus, a joke is very often scented a page beforehand; and often, in his observations subsequent to a groan, he prefaces a quotation of four or five words, by an introductory harangue of his own, at least long enough for a maiden-speech in the House of Commons. He copies too freely the style of Joe Miller, and other jest-book composers, who prepare us for any most improbable mistake, by introducing 'an Irishman noted for blunders;' or for a practical joke, which any one must have foreseen or discomfited, by 'a gentleman, proverbial for long fits of absence.' The plots for his jokes are sometimes almost as intricate, as the introduction to those composite jests of the worthies above mentioned, which depend upon the choice, assortment, or contrast of characters, as much as any regular drama. Such are those enacted by a man with a hump-back, and another without an eye; or by an Irishman, a barber, and a bald-headed man; or that most extraordinary witticism, the joint production of a sexton, a surgeon, a maid-servant, and a man recovered after being hanged.

'57. (T.) The handle of the tea urn coming off in the servant's hand, as he is passing by you! and this in such a manner, that though you break its fall with your leg, you, at the same time, break your leg with its fall—to say nothing of the contents, which, in my own case, I did not find of a very healing nature!

'*Ned. Tes.* Why, Sir, as to the simple fact of oversetting the "urn," that misfortune, if you will take Horace's word for it, "is destined to befal every man in some part of his life or other.

——"*omnium*
Versatur urna, serius, ociùs."

Here he is obliged to lay a train for his joke, and almost to explain it beforehand, in order to make it fit at all to the place. We are afraid he is used to make jokes, and keep them ready cut and dry by him; and then his eagerness easily overcoming his caution, he is reduced to beg an opportunity for them, such as, 'What do you think of such a thing, for I say that,' &c.; or, 'If you had said thus, I should have said that,' &c. Thus—

108. (T.) The two-fold torment inflicted by a flea—viz. first, the persecution to which he subjects you through the night; secondly, the loss of your meditated revenge in the morning, by his hocus-pocus escapes—his unthought-of and incredible capers, leaps, and flings, from under your eager fingers, at the very instant when you seem in the act of..... nay, to have actually annihilated him.

"*Mille fugit refugitque vias; et vividus*" *alter*
"*Hæret hians; jam, jamque tenet, similisque tenenti*
Increpuit—morsu elusus!" VIRG.

'*Ned Tes.* I am quite at home in this misery:—"intus et in cute novi." (Perf.) This little Harlequin of the insect race, seems, like his brother the biped, to consider his pursuers as foes, "*quos fallere et effugere est triumphus.*" (Hor.)—But have you nothing to say against a bug, father?—In London, at least, "these bugs do fear us all!" (Shak.)

In this hodge-podge of quotation, he is first obliged to introduce his inept sentence from Persius, by the inappropriate phrase of being at home in this misery; then metamorphoses the flea into a Harlequin, which, after some trouble, lets in his half line from Horace; only applicable to the new-comer Harlequin, and by no means to the flea, from whom the joke began; and at last is so cruelly bent upon giving vent to the new thought that suddenly pops into his head about bugs, that he cannot wait for a proper time, but abruptly asks his father what he has to say about them; and then, without stopping for an answer, lets fly his own bald quotation—if, indeed, that deserves the name of quotation, which only depends upon the usage of the same word, without any similitude of sense to the passage, to illustrate which it is mentioned.

We find many more instances of these faults, but are afraid of exceeding our limits; and are altogether so much obliged to any body who makes us laugh, that we wish not to be severe upon any thing that gives rise to that vulgar convulsion; even though it be involuntarily accompanied with the muttered 'pish' or 'psha' that seems to chide ourselves, and express shame for being amused at such nonsense. In this publication, however, we often find ourselves at liberty to laugh in perfect good taste.

After having enumerated the miseries of the country, these gentlemen go on to those of every place and occupation.—Of

Games and Recreations—of London—of Public Places—of Travelling—of Social Life—of Reading and Writing—of the Table—Miseries Domestic, Personal, and Miscellaneous. In addition to these, Mrs Testy furnishes a 'few supplementary sighs,' which were certainly imperiously called for. As, otherwise, the 'miseries' of the fair sex (and we believe they enjoy at least as many, and as fanciful and fantastic as those which torment the lords of the creation) would have been entirely untrenched upon. As it is, we suspect, Mrs Testy has made but a very small draught from the army of vexations and megrims in which 'angel woman' delights. This arose, necessarily, from the author's slender stock of information upon that point; for we are convinced they were furnished by no female friend. No lady, we think, would undertake a task, which, if fairly performed, must discover all the hidden springs and recesses of the female mind; all the arcana of the Bona Dea, which have hitherso been preserved as sacred as the secrets of Freemasonry. Nor would any true woman ever give up so much of the assumed dignity of the sex, as to allow that their gross vassal, man, is held in such estimation, or capable of producing such uneasiness, by his most trivial actions, in their refined minds, as is confessed in the following sighs.

'10. At a ball—being asked by two or three puppies "why you don't dance?"—and asked *no more* questions, by these, or any other gentleman on the subject:—on your return home, being pestered with examinations and cross examinations, whether you danced—with whom you danced—why you did not dance—&c. &c.; the friend with whom you went, complaining, all the time, of being worried *to death* with solicitations to dance, the whole evening.'

'14. After dinner, when the ladies retire with you from a party of very pleasant men, having to entertain, as you can, half a score of empty, or formal females; then, after a decent time has elapsed, and your patience and topics equally exhausted, ringing for the tea, &c. which you sit making in despair, for above two hours; having, three or four times, sent word to the gentlemen that it is ready, and overheard your husband, at the last message, answer, "Very well—another bottle of wine." By the time that the tea and coffee are quite cold, they arrive, continuing, as they enter, and for an hour afterwards, their political disputes, occasionally suspended, on the part of the master of the house, by a *reasonable* complaint, to his lady, at the coldness of the coffee;—soon after, the carriages are announced, and the visitors disperse.'

'16. At a ball—when you have set your heart on dancing with a particular favourite,—at the moment when you delightedly see him advancing towards you, being briskly accosted by a conceited simpleton at your elbow, whom you cannot endure, but who obtains (because you know not in what manner to refuse) "the honour of your hand" for the evening.'

We here finish our analysis of the work. The author seems to entertain an idea, that written dialogue is entitled to the liberties used in real conversation. We meet, accordingly, with some incorrect grammar, and much crudeness of style, incumbered with many unwieldy parentheses. Above all, he seems to have adopted, from colloquy, the use of several words newly and extraordinarily applied, which, in company, are easily explained and enforced by some gesture or emphasis of the speaker; but, when written down, convey no immediate idea to the reader, or, at least, a very feeble one. We meet with a 'washy remark,' 'a man of iron,' 'a sepulchral party,' &c.—all perhaps good colloquialisms, but which, in writing, lose all their force, from the explanations necessarily affixed; or, in default of them, the thought which the reader must bestow to discover their humour, or even meaning. Printing in italics is a disgraceful method of marking the point of a witticism. But the chief faults of the work are, great sameness and length, which mutually and severely aggravate each other; and we could readily have dispensed with much of the conversations introductory to the Groans, and, still more willingly, with the dull homilies preached at the end by Mr Sensitive senior. This is a remarkable instance either of an author's distrust in his readers, whom he would not leave to pick out his moral, or of diffidence in his own powers of rendering it plain and easy. The reader, at the end of the Groans, thinks he has finished the book, and is leaving it merry and pleased, when Mr Sensitive senior steps in, and, like the butler in the drama of Lovers' Vows, detains him, insults his understanding, and deadens his spirits, by the heavy recitation of his musty moral.

On the whole, we strenuously recommend this work to all who love to laugh; and, at the same time, feel no pleasure in disappointing an author, who aims at humour, by captious objections or dignified sullenness; for (as Tom Testy would put in)

> 'By two-headed Janus
> Nature hath fram'd strange fellows in her time,
> Some that will evermore peep through their eyes,
> And laugh like parrots at a bag-piper;
> And others of such vinegar aspect,
> That they'll not show their teeth by way of smile,
> Though Nestor swear the jest be laughable.' *Shak.*

To the first class described here, we promise much merriment from the perusal of this work; and to support our opinion, we will select a few of the best groans; or at least those which most affected our risible faculties;—a selection, we avow, much easier made, than that of the faults that have been mentioned in this review.

OF TRAVELLING.

'4. (S.) Just as you are going off, with only one other person on your side of the coach, who, you flatter yourself, is the last,—seeing the door suddenly opened, and the guard, coachman, hostler, &c. &c. craning, shoving, and buttressing up an overgrown, puffing, greasy, human hog, of the butcher or grazier breed—the whole machine straining and groaning under its cargo, from the box to the basket.—By dint of incredible efforts and contrivances, the carcase is, at length, weighed up to the door, where it has next to struggle with various and heavy obstructions in the passage. When, at length, the entire beast is fairly slung in, and (after about a quarter of an hour consumed in the operation) plunged down and bedded, with the squelch of a falling ox, and the grunt of a rhinoceros,—you find yourself suddenly viced in, from the shoulder to the hip; upon which the monster—when, in another quarter of an hour, he has finally pumped, and panted, and snortled himself into tranquillity,—begins to make himself merry with your misery, and keeps braying away,—totally callous to the dumb frowns, or muttered execrations, ("curses not loud but deep") of the whole coach.'

'25. (S.) At a formal dinner—the awful resting-time which occasionally intervenes between the courses:

'Ned. Tes. "*Inde alios ineunt cursus, aliosque recursus,—*
Adversis spatiis!"

'10. (T.) After having left a company in which you have been galled by the raillery of some wag by profession—thinking, at your leisure, of a repartee which, if discharged at the proper moment, would have blown him to atoms.'

'29. (S.) Rashly confessing that you have a slight cold, in the hearing of certain elderly ladies "of the faculty," who instantly form themselves into a consultation upon your case, and assail you with a volley of nostrums, all of which, if you would have a moment's peace, you must solemnly promise to take off before night—though well satisfied that they would retaliate, by "taking you off" before morning!

'Ned. Tes. "*Ægrescitque medendo.*" Virg.

FROM MRS TESTY'S SIGHS.

'11. At a long table, after dinner, having the eyes of the whole company drawn upon you by a loud observation, that you are strikingly like Mrs or Miss ———, particularly when you smile.'

We are sorry the author inserted such an affected and nonsensical groan as the following.

'21. (T.) Hearing the threats of invasion which have long been bawled out by the little bloated fiend on the other side of the channel, honoured with serious attention by men actually born and bred in England. There are not, indeed, above half a dozen of our countrymen of this white-livered description; "but who can think, with common patience, even of that handful?"

In powerful contradiction, too, to the sense and truth of the following.

'11. (S.) At the play—the sickening scraps of naval loyalty which are crammed down your throat faster than you can gulp them, in such after-pieces as are called "England's Glory,"—"The British Tars," &c.—with the additional nauseau of hearing them boisterously applauded.'

In the second edition, the author has informed us of a new calamity, which he entitles 'My own Groan.' It contains his complaint of the work being attributed to other noblemen and gentlemen, whose initials only, and those perhaps fictitious, he publishes. We suppose, from this caution, that they are gentlemen who have never yet dared the public eye in a printed shape; but, since the world has attributed to them a work which has met so favourable a reception, we suppose they are held in estimation as some of the prime wits and "merriest men" of the age. This favourable opinion thus expressed, should not be disregarded by them; they are called upon to enter boldly upon the fields of literature, and exhibit to the world proof of those talents for which it has thus universally given them credit.

We now unwillingly leave this work; and, as a farewell to the author, we entreat him (without meaning to measure weapons with so formidable a rival) to cast an eye of compassion and sympathy upon a few

REVIEWERS' GROANS.

1. A complacent author's inquiries, whether his book is about to be reviewed, and what is the character to be given of it;—said book having only been thought worthy to be dismissed with a general censure for stupidity, ignorance, and self-sufficiency.

2. A plaintive author's reproachful question how he ever injured you, so that you chose to be his executioner; and the candour with which he argues upon your opinion of his work; only denying that it wants genius, wit, or taste; while he ingenuously confesses there are some few grammatical inaccuracies and carelessnesses in the style.

3. Finding yourself seated at dinner next a gentleman whom you have before pilloried in a review of extreme severity; then being somewhat relieved by finding that you are unknown to him; till a blundering pretender to literature, on his other side, calls you by your name; and asks across him, Who is to be cut up in the next Number?

4. The harsh and opprobrious review done by your brethren upon a book that you have generously published anonymously; then, upon your owning it, in hopes of softening them, and perhaps procuring a revisal of the second edition of the review; their

comments upon your unkindness and folly in not telling them before; and, above all, the subsequent grins and rejoiced faces of the whole literary world, to whom your friends immediately publish your avowal.

5. The copy just set up, and more wanted—the printer's imp, or the great Beelzebub himself in waiting, and grinding his fangs with impatience—the postman delivers a treble letter, which you eagerly open, expecting a communication from a first-rate correspondent, and which proves to contain a long expostulatory and indignant refutation of your last quarter's critique on an incensed author—postage unpaid.

6. The doleful alternative of perusing a huge quarto, at the risk of dislocating your jaws, in order to review it—or of reviewing the said quarto, without so perusing it, at the risk of making blunders, and furnishing pegs on which charges of misrepresentation will not fail to be suspended.

7. ——— Last scene of all,
To close this sad eventful history,—

Long labour bestowed in endeavouring to extract subject for an article from a book too dull to be commended, and too accurate to be condemned, where ordinary subjects are treated in an ordinary style, and with ordinary ability; so that, at last, you relinquish the hope of drawing forth, from the mass of mediocrity, food either for reason or for ridicule, and shut the book, with the fruitless apostrophe,

Too bad for a blessing, too good for a curse,
I wish from my soul thou wert better or worse.

ART. XIV. *Les Templiers, Tragedie, précédée d'un Précis Historique sur les Templiers.* Par M. Raynouard. Paris 1805.

THIS work, as is evident from its title, is divided into two parts, of which one is an historical abridgement, and the other is a poem. We have, therefore, to examine, first, how the author deals with truth, and, secondly, how he succeeds with fiction. The same individual may certainly excel both as a poet and as an historian; but when he is to state the facts as they really happened, and is afterwards to embellish them with the colouring of fancy, the probable success of his enterprize may be reasonably questioned. It may be feared that, in spite of the best endeavours of the writer, the history will be so fashioned as to correspond with the fable, and that the fable will be rendered less attractive than imagination might have made it, in order to preserve its likeness to the history.

The author before us has chosen a subject for his tragedy, which is generally known to every person of education. He has thought fit, however, to prefix a statement of that subject to his drama, which contains almost the whole historical testimony relating to it. Now, if we condescend to believe Aristotle, tragedy, like every other species of poetry, is an imitation; and its power to please must consequently depend not a little on the illusion which it produces. But he, who would create an illusion, must not make us too intimately acquainted with the objects by which he means to raise it. If you wish to surprise a man with an optical deception, you must not previously instruct him in the science of optics; nor, when you would seriously interest him in a tale of the imagination, should you so accurately teach him the facts upon which it is founded, that he can never mistake the fiction for the truth. The admirers of poetry would not thank the antiquary, who should prefix to Hamlet and Macbeth a clear and indubitable statement of the events on which those tragedies are founded. There can be little doubt but that Shakespeare's accuracy would bear no comparison with his genius; and the probability which we now allow to many of his scenes would probably vanish on the comparison. When, therefore, we opened the volume before us, and found that the tragedy was preceded by the history of the Templars, well garnished too with many citations, proofs, and documents, we could not help thinking the conduct of the author injudicious. The moralist must forgive the muse as well as he can; but certain it is, that the torch of truth sheds no light by which she likes to exhibit the works of her creation. It throws too powerful a glare on her illusory scenery; and her softest shadows and her gayest tints disappear before it.

Having premised these few remarks, we shall now proceed to state the contents of the publication before us—the abridged history of the Templars, and the tragedy which M. Raynouard has founded upon it.

I. Nine of the French knights, says our author, who had followed Godfrey of Bouillon to the conquest of the Holy Land, devoted themselves to maintain the safety of the public ways against the attacks of the infidels, who insulted the pilgrims whom their piety conducted to Jerusalem. These Frenchmen were successively reinforced by many other warriors; and this generous soldiery appeared very soon after with glory in the field of battle, and formed the religious and military order of the Templars. Such is the short account of the origin of this celebrated institution, which is given to us by M. Raynouard. He then proceeds to describe the appearance and manners of the knights, in the

words of St Bernard. They had nothing, it seems, to themselves, not even their own will. They were generally plainly dressed; were commonly covered with dust; had their faces burnt by the sun; and the expression of their countenances was severe and fixed. On the approach of the combat, says the saint, they armed themselves with faith within, and with iron without. This double precaution was undoubtedly prudent, since it appears, that every knight was bound by an oath not to fly, even when alone, from three enemies, provided these were infidels. While the oath exhibited the courage and the zeal of the soldiers of the Temple, it must be confessed that the condition might furnish many facilities for evading it.

M. Raynouard now enters upon a justification of the Templars, and attempts to exculpate them from the crimes which have been laid to their charge. He gravely commences his defence, by assuring us, that the proverb, *to drink like a Templar*, proves no more against the Order, than the more ancient proverb, *to drink like a Pope*, proves against the Roman pontifs. The other offences of which they are accused, were of a less venial nature. From the imputation of these, our author labours to vindicate their memory. Now, although we have long been of opinion that the mode in which the Templars were tried was unjust, and that, even if the accusations against them had been clearly proved, there is no apology for the horrid cruelties which were inflicted on them; yet we cannot acquiesce with our historian, when he becomes their advocate, and endeavours to place their innocence beyond suspicion. Of the degree of guilt which was imputed to them, men will judge differently, according to their habits and prejudices; but we cannot venture to say positively, that they were innocent of all they were accused of. When they were first inculpated, they had much in their power. They were rich, powerful, and numerous. Their order derived its origin from the superstition of the times; and their extraordinary and extravagant zeal could not fail to be a theme of admiration with the multitude. Is it likely, then, that spotless virtue, supported by wealth and dignity, distinguished by renown in arms, and respected throughout the whole Christian world, should have been hurled at once into destruction by a base and groundless calumny? If the French Monarch, the Roman Pontiff, and the Venetian Republic, entered into a detestable league to crush a set of men, who had been the heroes of popular prejudice, and whose lives were devoted to the cause of superstition, how did it happen that almost all the Princes, and all the nations of Europe, participated in this unworthy and tyrannical persecution? The cry of indignation

against the Templars was not limited to the kingdom of France; nor did it proceed from any particular description of men. It resounded from the shores of Asia to the borders of the Baltic. Kings, prelates, nobles, people, joined in the universal exclamation. At the distance of several centuries, are we to pronounce that all Europe was deceived, not upon a speculative question, but with respect to the characters of men eminent by their rank and reputation, and whose conduct could not be entirely hidden from public observation?

Our author has certainly brought forward many proofs, from which it is evident, that the Templars were held in high veneration up to the period of the dissolution of their Order. Yet, all this testimony only seems to render it more extraordinary, that unfounded accusations should have prevailed against them, and should have occasioned their sudden downfal, with loss of life, of fortune, of character, and of honour. The King of England, the rival and the enemy of Philip, had been the protector of the Templars. Our author tells us, that it is not necessary to examine the political reasons which afterwards determined Edward to have them arrested in England. But, unless the political reasons be made manifest, it is not candid to conclude, that the English Monarch abandoned their cause, and consented to their punishment, without being impressed with the belief of their guilt; and let it be remembered, that in whatever light that guilt may be considered by modern philosophers, it was held in fearful abhorrence by the barbarians of the fourteenth century. The Templars were accused of nothing less than of a terrible heresy, for which the spirit of the times admitted no apology. What we should have esteemed their greatest offence seems to have attracted little comparative notice.

The part which was taken by the Roman Pontiff against the Templars, may seem to have proceeded solely from interested motives; and yet it was consistent neither with the practice, nor with the policy of the Church of Rome, to abandon the instruments of its usurpation at the will of any temporal power. Clement the Fifth had been raised indeed to the Papal throne, by the intrigues of Philip; but if he was less insolent in his language to that Monarch than the haughty Boniface had been, he was not less attached to the interests of his order, nor less versed in the arts by which it imposed upon mankind. The Templars were by name and profession the servants of the Church. They were sworn to defend the mysteries of the faith. They kept alive that spirit of enthusiasm, which had sent so many visionaries to find their graves in Palestine. These Templars were still the professed enemies of the infidels—of those Arabians from whom

the Europeans had to learn so much. They were the brightest embers which remained of that sacred conflagration, which the ambition of churchmen had spread over the fairest regions of the globe. Is it then probable, that Clement would have desired to destroy their existence, in order either to flatter the King of France, or to share in their spoils, of which he knew he was not likely to be a principal partaker? To extirpate these men was not to encourage a new crusade; it was to give a terrible warning to all adventurous enthusiasts, who might choose to fight for the sake of the faith; it was to admonish mankind of the folly of enterprizes which had been serviceable to the clergy alone, and to let the people into the secret, which their sovereigns were beginning to discover. In order to account, then, for the conduct of the Pope, we must believe, that he no longer reposed entire confidence in the Templars; and that he, at least, suspected them of having abandoned the principles which led to the institution of their order.

If we were disposed to renew the accusations which were made against the Templars, we should have no difficulty in collecting materials. It is, however, very far from being our intention to pronounce sentence against them, even while we hesitate in admitting the proofs of their innocence to be incontestable. When the crusaders poured in multitudes into the East, they met in their progress with nations more refined than the French, the Germans, or the English; and there can be little doubt, that many of them returned home with more civilization, and with less faith, than they left it. Nothing tends sooner to cure men of their own credulity, than to witness the blind superstition of others. While the bigotted barbarians of Europe were suffering under innumerable hardships on the burning sands of Asia, they had the opportunity of contemplating the influence of false and mistaken notions on a people scarcely less fanatical than themselves. They had leisure, it may be presumed, in the midst of their difficulties, to reflect on the folly of their enterprize; and the frequent reverses which they met with, had no doubt cooled the ardour of their zeal. If they had stopped here, the voice of reason would justify them at the present day. It seems, however, that some of the crusaders brought home notions of religion, which gave scandal to the whole Christian world. If the soldiers of the Temple were really never infected with this alarming heresy, their fate is the more to be deplored; and yet the mysteries of inauguration, and the solemnity of oaths, appeared to indicate that they had secrets to conceal.

Our author exclaims against the injustice of receiving evidence from men of infamous characters, who had been expelled from

the Order. We admit, that to receive testimony upon oath from a wretch, who has violated every principle of duty, and who is allowed to preserve his life, on condition that he swears to the guilt of another, is a mockery of justice only worthy of the Inquisition. We shall therefore allow, that when the Prior of Montfaucon accused the Templars, the unworthiness of his own character ought to have been remembered; and the testimony, probably dictated by revenge, which he gave against them ought to have been rejected. But this Prior, we are afraid, was not the only Templar who denounced his order. Neither do we possess any evidence, to prove that all those members, who confessed the guilt imputed to them, were totally unworthy of credit. Many of them were yet young when initiated, and might have afterwards lamented the crimes which they had committed. It is to be observed, that the evidence of Peter of Boulogne was taken six months before the Grandmaster was arrested. Can it be ascertained that his confession was involuntary? He was examined, it may be said, by the Commissary of the Inquisition, and was afraid of being put to the torture. But does it appear that he was constrained, in the first instance, to denounce the Order? In his deposition, he speaks with abhorrence of the rite of inauguration; and the compunctions of his own conscience might have urged him to disclose what he knew, without the fear of any personal punishment. His appearance before the Inquisition was a thing of course, if he had made a previous avowal to his confessor.

With respect to the manner in which the Grandmaster and the one hundred and thirty-nine Knights were tried at Paris, we entirely agree with our author. There are, indeed, few examples in history of a more flagrant act of injustice. The Grandmaster was summoned under a false pretext to return to France; and, on the 13th of October 1307, he, with all the Knights, was arrested, and thrown into prison. They were allowed no counsel; their possessions were seized; they were prejudged in an act published by the King; and they were left to choose between torture and confession. In the midst of their sufferings, some of these unfortunate men avowed whatever their tormentors chose; but several of them retracted as soon as they were liberated from intolerable pain. For this contumacy, as it was called by their inhuman judges, who deserved the punishment which they inflicted, these wretched victims of rapacity and tyranny were doomed to perish by the flames.

The history of the Templars is interesting, because it exhibits a striking picture of the spirit and manners of the times. A generous, but extravagant zeal, gave birth and celebrity to their

Order. An accusation of apostasy, perhaps suggested, and certainly encouraged by the French monarch, who coveted their rich possessions, accelerated and completed their ruin. They owed their elevation to the superstition of the people, and their destruction to the injustice of princes. They had been the heroes of prejudice; and the artifices of a tyrant made them become its victims. The charges adduced against them might have been founded in truth; but this cannot excuse the mode of their trial, or the severity of their punishment. They might have been guilty of heresy, which, after all, it is not the business of man to punish; they might have been shamefully dissolute in their manners, for which their Order deserved to have been abolished; and yet they ought not to have been put to such shocking tortures, as humanity would forbid us to inflict on the most blood-thirsty and atrocious monsters, whose crimes ever filled the world with affliction and desolation.

Of the abridgement before us, we should be inclined to speak more favourably, if it did not rather resemble a rhetorical pleading than an historical statement. It is wanting likewise in that philosophical spirit, which is so important and so advantageous to the historian. Our author writes, as if the *Sorbonne* were still in existence. We are fatigued with his elaborate endeavours to convince us, that the Templars were the faithful servants of the Church of Rome. Had they not been so, would the mode of their trial have been less contrary to justice? Is it necessary at this time of day to prove, that men are good Catholics, in order to persuade us, that they ought not to be burnt as heretics? Is there now any such spirit of intolerance to be satisfied in France? We hope not. We should, indeed, be sorry to have again to complain, that that volatile nation cannot escape from one extreme, without running into another.

M. Raynouard has exhibited *Jaques de Molay*, the Grand Master of the Templars, as a firm Papist. If the audience would not shed a tear at his tragedy on any other condition, the author certainly did right. Still, however, we think, he might have boldly taken for granted as a poet, what cannot be so easily accorded to him as an historian. If the tragedy alone had been submitted to us, we should not have desired to inquire very rigorously into the matter. As critics, and as philosophers, we should have thought it a question of little importance. We are now compelled to consider the evidence given by *Jaques de Molay*, and to ask, if he were entirely innocent, how he came to be quite so particular in the confession which he afterwards retracted? Why did he make a miserable evasion? Was such a subterfuge worthy of an innocent man? Was it one, to which a great mind was likely to stoop? We do not, however, mean to conclude, from this circumstance,

that he was really an apostate; but, after having read his confession, we must still be permitted to despise him, even if he were not one. In that confession he inculpated all his brethren, and attempted to excuse himself by a piece of sophistry, of which the veriest pedant that ever issued from the schools would have been heartily ashamed.

II. Among the many claims which the French make to pre-eminence in literature, there is none, perhaps, which they have better established among the nations of the Continent, than the superiority of their drama. The English alone seem disposed to contest this point with them. It is only the mob in Spain, that would prefer Lopé and Calderon to Corneille and Racine. The judicious critics of Italy will not compare Goldoni with Moliere: They will acknowledge that the Italian comedy is inferior to the French. The *Meropé* of Voltaire, it can scarcely be denied, is a finer tragedy than the *Meropé* of Maffei; and although the works of Alfieri display elevation of sentiment, and fire of genius, yet there is much stiffness and harshness in his style; there is a want of *pathos* in his manner; and he seldom succeeds in touching the heart. His language is too learned for the theatre; and perhaps, even to the critic, he shows himself too emulous of Danté. The admirers of tragedy in Italy are fewer, we believe, than in France. The reason is obvious. The Italians possess the charming operas of Metastasio; but they have no tragedy that can be compared with *Athalie*, or with *Phedre*. Of the success of the buskined muse in Germany, we are by no means so competent to speak. From what we do know, however, we are inclined to suspect, that High Dutch has not yet become her favourite language; and if the character given of it by Charles the Fifth were right, this cannot be a matter of much surprise. We believe, too, that the enlightened Germans readily confess, that their tragic writers have not yet attained the highest elegance; that they are not perfect masters of their art; and that they are rather deficient in taste, and are somewhat given to extravagance. From the few specimens, which we have seen, we are disposed to acquiesce in this opinion. It may not be fair to judge from translations; and when we have read the *Robbers*, and some other German plays in English, we have lamented, that we thereby lost the harmonious periods, and the smooth and polished verses, which, no doubt, we should have admired in the original. Metaphors, that might have been brilliant, and exclamations and interjections, which might have been extremely moving in the German, become ludicrous to us when expressed in our own vernacular tongue, and when uttered in plain English accents.

The same judgment, which can approve of the translated works

of Schiller and Kotzebue, is not likely to be delighted with the more regular productions of the French dramatists. The truth, indeed, is, that even Corneille, Racine, and Voltaire, have comparatively few admirers in England. The common objections, which are made to their works by our critics, are not the sole reasons which influence the national taste. It is said, that the French versification is monotonous; that the rhymes are fatiguing to the ear; that the speeches are too long and too declamatory; that the heroes of Greece and Rome are converted into French courtiers; and that there is too much gallantry and too little passion in the principal scenes. We believe no candid critic, whether French or English, will deny the general justice of these objections; and yet we suspect there is one which remains behind, of which the influence is at least as powerful as any of the rest.

We are not pleased with a regular drama. Our pit and our galleries have no great notion of fine versification and beautiful poetry. They generally decide the fate of a new piece; and the rules of art, and the higher graces of composition, are all lost on the honest shopkeepers, and industrious tradesmen, who seek for a few hours of recreation at the theatre from their usual occupations. Our fine gentlemen, and our women of fashion, seldom disturb the tranquillity of the audience by the expression either of their applause, or of their disapprobation. They are generally too much occupied with themselves, or else they are too listless to attend to any thing which may be passing on the stage. Hence it appears, that our dramatic writers wisely forbear from attempting to please refined spectators. Hence the rules of art are abandoned; the scene is full of bustle and confusion; probability is forgotten, and extravagance is applauded. The fable, the plot, the incidents, the characters, and the dialogue, are, indeed, of little importance to the *show-man*, in comparison with the scenery and the decorations; but when he would avail himself of them as powerful auxiliaries, he must then remember whom it is that he has to please. To amuse the mere vulgar, his fable cannot be the worse for being a little improbable, nor his characters for being a little extravagant. When his actors declaim, their style should be highly florid, their language hyperbolical, and their metaphors mixed. Such sentiments as are toasted with applause at a tavern-dinner should be loudly vociferated; and a favourite truism should ever be ready to hobble forward in a verse. Tragedy, comedy, and farce, should be well jumbled together; Melpomene should never long keep possession of the scene; and a song may now and then be advantageously introduced, lest the spectators should grow too impatient for the tune of *God save the King*, or *the Roast Beef of Old England.*

It is but justice to the critics to admit, that they are in general as little satisfied with the modern drama as we are ourselves. May it not, however, be asked, whether they have not greatly contributed to bring about the evil of which they complain? There was a time when they were in possession of the pit. But, even then, they never encouraged the regular drama. Dr Johnson led on *the dogs of war;* and their cry was for liberty and nature, for tragi-comedy and Shakespeare. They declaimed against rules, and ridiculed the French for observing them. Dr Johnson wrote against the unities, in his preface to Shakespeare; and condescended to insert the criticism of John Dennis upon Cato, in his life of Addison. We now gather the fruits of his toil. Voltaire said that Shakespeare had spoiled the taste of the English nation. We will not say this; but we think that the defenders of his irregularities have not improved it.

When we first were informed that the tragedy of the Templars had been represented with considerable success at Paris, we became anxious to obtain a copy of it. Within a few days of the time when we are now writing, this publication was put into our hands. The task of reviewing it has been greater than we reckoned for, as we did not expect to get a history into the bargain. It has, however, afforded us some consolation to think, that we may perhaps be enabled to amuse our readers, by giving them an account of a drama which has pleased at Paris. They will make their own reflections on the very different tastes for theatrical exhibitions, which prevail in the two greatest capitals of Europe.

The first scene of the tragedy of the Templars did not much prepossess us in its favour. The Lord High Chancellor of France, and the Minister of Finance, meet in the palace of the Grand Master. These grave personages, who are no very poetical characters, hold a long consultation, in masculine and feminine rhimes, on the fate of the order. The Minister of Finance *prologiseth* thus.

'Illustre Chancelier, le Roi que je devance,
Veut que dans ce palais j'annonce sa presence.
Vous savez son dessein: avant la fin du jour
Un grand événement étonnera la cour.'

The Chancellor replies in the same strain.

'Ministres l'un et l'autre, il faut que notre zèle
De Philippe outrage defende la querelle.'

Now, although these grave statesmen let each other into some very important political secrets during the course of their conversation, we must confess, that we could not get *Noodle* and *Doodle* out of our heads during the whole scene. At length the Grand Master interrupts the conference. The Lord High Chancellor

announces to him the dissolution of the Order of the Templars. *Jaques de Molay*, who could neither read nor write, makes a very brilliant harangue, and advises the servants of the King not to forget that he is still Grand Master.

' Ce n'est pas que le Roi nous puisse humilier ;
Mais que ses serviteurs se gardent d'oublier
Qu'en ce palais encore ils parlent au grandmaître :
Oui, je le suis toujours, je saurai toujours l'etre. '

The Grand Master quits them ; and the Ministers, more perplexed than ever, renew their conference. They are interrupted by Philip, who arrives with his suite, and with Marigni, the son of the Minister of Finance, who had already informed the Chancellor, that he hated the Templars, because they had prevented this young man from marrying a certain damsel of the name of Adelaide. The King orders his Ministers to declare to his Court, that he should afterwards reside in the palace of the Grand Master; and confesses how unwilling he has been to believe, that the Order was capable of insulting the Church, and of betraying the State. We shall briefly observe here, that this last accusation, which is repeatedly made in the play, has never been even hinted at in the history of the Templars. Philip then appeals to the young Marigni, who had served with the knights, for a confirmation of their guilt ; but this generous youth, to the great surprise of his Sovereign, and to the extreme vexation of his father, makes a very long speech in favour of the Order. Philip answers him in a speech equally long, and thus concludes the first act. *

* Upon what principle the moderns have been accustomed to divide their tragedies into five acts, it would be difficult to say. Was it from a misunderstood expression of an ancient poet ? The divisions adopted by the Greeks were much more natural. A tragedy, like every other poem, requires a beginning, a middle, and an end. The prologue was that part of it which preceded the first song of the Chorus, and in which the subject was announced ; the episode included all the dialogue between the first song of the Chorus and the last ; the epode was the winding up, or conclusion of the piece. The chief action, and the incidents which changed the situation of the persons, and which varied their fortunes, were introduced in the episode. Now the second, third, and fourth acts of regular modern tragedies, correspond in this respect with the episode of the Greeks. But it would be difficult to show that the Greeks confined themselves to any certain number of acts. The truth seems rather to be, that the Chorus sung whenever there was naturally a pause in the action. The Greeks made the pauses depend upon the story ; the moderns are often compelled to interrupt the story in order to make the pauses.

The subject having been announced in the first act of the tragedy before us, the incidents commence, according to rule, in the second. The young Marigni appears alone. He laments that some secret mystery renders his nuptials with Adelaide a crime. The Queen of France and Navarre had deigned to protect him. She comes to offer him the hand of Adelaide, which had been before refused him, as his father thought, through the intrigues of the Templars. Now, this lady was the daughter of the Prince of Béarn: and the Queen proposed to make Marigni happy and great, by presenting to him the object of his affections as a wife, and by appointing him governor of the kingdom of Navarre. Her surprise then is natural, when the young man informs her, with many compliments prettily turned in verse, and quite *à la Française*, that it is not in his power to accept her offer. The Queen lays her commands on him to reveal the secret motive which actuates his conduct. Marigni confesses, that despairing of receiving the hand of Adelaide, he had gone to the Holy Land, where he had become a Templar, and at the same time made a vow never to marry. As those who had received him into the Order were now all dead, he had some thoughts of never revealing the secret. Finding, however, the danger which menaced the Templars, his generosity triumphed over his love, and he resolved to remain faithful to their cause. The benevolent Queen encourages him in this intention; and requests that he will become the chief of their guard.

' Ils connaitront par vous, que je prends leur defence:
Faites dans leur prison descendre l'esperance. '

When the Queen leaves Marigni, he expresses his grief in a short soliloquy; and is then joined by his father, who informs him, that the King has determined on the destruction of the Templars, and has appointed him to execute the royal vengeance. There is something very French in the following couplet.

' Je viens de démander, et d'obtenir pour toi
L'honneur de diriger la vengeance du roi. '

Philip now returns, and declaims against the Templars at great length; his Lord High Chancellor, and his Minister of Finance, occasionally helping him with a few invectives, in order to give him time to breathe. In the midst of this scene the Lord Constable makes his appearance. He pleads the cause of the Templars. The King replies very shortly to him, and goes to speak to the Grand Inquisitor, who is waiting for him without. A short but sharp altercation then takes place between the Constable, the Chancellor, and the Minister. The stage is not quite the place for holding a cabinet council.

The Grand Master and the Knights reappear. He notifies to

them the danger which threatens them, and exhorts them to prepare for death with the courage of innocent and religious men. The young Marigni arrives; and, struggling between his duty and all the fondest wishes of his heart, announces to them, that he is commanded by the King to conduct them to prison. The Grand Master answers with dignity and firmness.

' Lorsque l'ordre n'est plus, qu'importe notre vie?
Quand nous trouvons partout l'affreuse calomnie,
Si l'échaffaut est prêt, c'est à nous d'y courir;
Que tout Templier meure, et soit fier de mourir. '

Marigni is struck with these words. His conscience upbraids him. He remembers his oaths. He throws himself on his knees before the Grand Master, declares he will perish with him; and adds,

' Sur moi de vos vertus, que Philippe se venge:
Oui, je suis Templier.
G. M. Je le savais. '

The Grand Master objects to the sacrifice which the young man is willing to make of himself. At length the elder Marigni, impatient at his son's delay, enters, and orders the soldiers to conduct the Knights to prison. An interesting scene now takes place between the father and the son. The young Marigni avows that he is a Templar, to his father, the avowed enemy of the Order, and one of the principal advisers of its destruction.

The fourth act opens with a conversation between the Queen and the High Constable, who consult how they may still save the Templars from death. The King joins them, and the Queen addresses a long and eloquent speech to him in their favour. The following lines may serve as a specimen of it.

' Si je prends le parti de tant de malheureux,
J'agis pour votre gloire encor plus que pour eux.
Vous livrez ces guerriers à ce juge implacable,
Qui force l'innocent à s'avouer coupable;
Qui se dit convaincu dès qu'il peut soupçonner,
Et commence à punir avant de condamner.
Le Ministre d'un Dieu de paix et de clemence,
Sur un saint tribunal fait asseoir la vengeance!
Devant lui l'accusé se trouble et se confond;
La torture interroge, et la douleur repond. '

The King is persuaded to listen to the justification of the Grand Master. The latter, indignant at hearing that he is accused of irreligion, defends himself against that calumny; and exclaims,

' Ah! Sire, vous pouvez souffrir ces injustices! '

Philip replies,

' Je puis vous annoncer l'aveu de vos complices. '

The Grand Master then learns that some of the Knights had

confessed; and is yet more afflicted, when the King orders *Loigneville* to be brought before him, and when this ancient friend of the Grand Master appears as one of those who had borne witness against the Templars. *Loigneville* replies to the questions of his superior, who can scarcely bring himself to believe in his guilt.

'Mon cœur est innocent, mais ma bouche est coupable.'

Overcome by the severity of his sufferings, he had avowed whatever the Inquisitor pleased to dictate. This was the weakness of nature, and not the crime of the heart. The King, enraged, drives the Templars from his presence. The Chancellor arrives; announces the guilt of the young Marigni, and is quickly followed by the father of that unfortunate young man. He pleads the cause of his son. Philip answers him with the sternness of a master, and with the jealousy of a tyrant.

In the fifth Act, the unity of place seems to be violated. The Templars were confined in prison. It must, consequently, be there that they were assembled, when the young Marigni addresses them upon his return from the trial. The hopes which he encourages them to entertain of their escape from the scaffold, are dissipated on the appearance of the Grand Master, who comes back the last from being examined by the Inquisitors. These hopes are again revived by the High Constable, who announces that the King is yet willing to pardon them. Philip arrives, and offers to liberate them, on condition that they confess their guilt. They refuse, and are led away to the scaffold. The Queen intercedes for them once more; and Philip consents again to offer them pardon. But it is now too late. The High Constable returns, and announces that the Templars have perished in the flames.

Such is the outline of a tragedy, which has been lately represented with applause at Paris. We cannot say that we find in it much of that brilliant genius which marks the best plays of Corneille; and it has still less of that *pathos* which charms us in Racine. Many of the scenes are cold and languid. There is little passion, and consequently little interest. The situation of the young Marigni would frequently excite our pity, if he seemed to have more feeling for himself. The Grand Master is a virtuous and stern barbarian, in whose inflexible character we do not recognize the temporizing spirit of *Jaques de Molay*, who confessed, who retracted his confession, and who probably would have been equally burnt if he had not. Philip is like many other tyrants of the stage, who strut and fret their hour, and are forgotten. But what could induce M. Raynouard to make a chancellor and a minister of state, two principal characters in his tragedy? The former is a mere speaking puppet; the latter might have been better announced to us under the name of Marigni the father.

The good taste of Corneille and Racine, induced them to dispense with the guards and usual attendants of kings. Why did our author introduce the Privy Council of Philip the Fair? Besides, a lord high chancellor, a minister of finance, and a great constable, are no more tragic characters, than a justice of the peace, or a colonel of volunteers.

Having perused these strictures on the tragedy of the Templars, some of our readers may think it strange that, if they be just, the piece could have succeeded. The admirers of our modern plays will be astonished at the taste of the Parisians. Here is a regular tragedy, in which the rules of criticism are never violently offended, and where, indeed, they are generally observed. There is no shifting of scenes; the stage is never left empty during the same act. There are no processions; no spectres; and no battles. Not a single person dies upon the stage, to entertain the spectators. There is no buffoon to make us laugh in the midst of a tale of sorrow. All the actors speak in verse. The principal persons do not affect a pompous and inflated style; while the others talk the language of the alehouse. We have remarked no monstrous metaphors, and no very hyperbolical expressions. The incidents are not improbable. Nothing impossible is admitted. The mechanist could have very little to do with the success of the play. The tragic muse keeps possession of the stage, and never descends from her *cothurni*, to show to the galleries that she is not really so tall as she seems to be.

How then could it happen, that the tragedy of M. Raynouard succeeded? This must, indeed, be a mystery to the admirers of those tragi-comical things, which are represented with so much applause in London. We believe the truth to be this. The French consider a tragedy as a poem, which may be acted upon the stage; but they never forget that it is a poem. Now, although the tragedy of the Templars have many defects, and although the interest be not kept alive: yet it contains some fine passages, and many excellent verses. A French audience is very attentive to these things. It would appear, that a Parisian critic cannot suffer all rules to be violated, in favour of extravagant conceptions; and would rather dispense with decorations and scenery, than with fitness and probability. Fine language, it would seem, is more important, in his opinion, than all the tricks of Harlequin. He thinks there can be no beauty where there is no propriety. He prefers simplicity to confusion; nor when he is disposed to be melancholy, does he love a coarse joke, or an impertinent piece of buffoonery.

We shall conclude, by giving the following extract from one of the speeches of Philip. The allusion in the last lines was pro-

bably applauded at Paris. We can applaud the lines, and smile at the allusion.

' Quelques faits éclatants ont illustré mon règne :
Il faut que l'étranger me respecte ou me craigne.
Le François me cherit, depuis qu'en nos états,
Où délibéroient seuls les grands et les prelats,
Le premier, j'ai du peuple introduit le suffrage ;
Le peuple dans nos lois honore son ouvrage.
Le Pontife Romain, hardi dans ses projets,
Ne voyoit dans le rois que des premiers sujets :
Un prêtre de nos lois se prétendoit l'arbitre.
J'ai bravé son audace en respectant son titre ;
Et tandis que le bruit de ses foudres sacrés
Epouvantoit encor les peuples égarés,
Moi, discutant les droits de l'autel et du trône,
J'ai contre la thiare élevé la couronne,
Et d'un Pontife altier reprimant les vains droits,
J'aurai de sa tutelle affronchi tous les rois.
Les exploits d'Edouard menacent-ils la France ?
Il expie aussitôt sa superbe imprudence.
L'Anglois fuit, et laissant nos rivages deserts,
Met entre nous et lui la barrière des mers.
Aux flots de l'ocean il demande un asile ;
La terreur de mon nom le poursuit dans son île ;
Justement effrayé de mes hardis projets,
En vassal de ma gloire il accepte la paix.'

Art. XV. *Miscellaneous Poetry.* By the Honourable W. Herbert. 2 vol. 8vo. Longman & Co. 1804.

These little volumes contain a variety of translations from the Norse, Italian, Spanish, Portuguese, German, &c. with a few original pieces. Those by which we have been most interested, are contained under the title of ' Select Icelandic Poetry,' being versions of celebrated passages in the Edda of Sæmundar, and other specimens of Scaldic poetry. These translations form the *first* part of the first volume, and the *second* part of the second ; a confused and capricious arrangement, which we wish had been avoided. They are, to a certain degree, a novelty in our literature ; for although translations of many of these very pieces have been made by poets of different degrees of merit, from Gray to Amos Cottle, yet it has happened rather perversely, that not one of these translators understood the original Icelandic, but contented themselves with executing their imitations

from the Latin version, and thus presenting their readers with the shadow of a shade. We can only estimate the injustice which the old Scalds sustained in this operation, by considering what sort of translation could be made of any Greek poet from the Latin version. Mr Herbert has stepped forward to rescue these ancient poets from this ignominious treatment; and his intimate acquaintance with the languages of the North is satisfactorily displayed in an introductory address to the Hon. C. Anker, Director of the Danish East India Company, executed in Danish poetry, as well as by many learned criticisms scattered through the work. We do not pretend any great knowledge of the Norse; but we have so far 'traced the Runic rhyme,' as to be sensible how much more easy it is to give a just translation of that poetry into English than into Latin; and, consequently, how much is lost by the unnecessary intermediate transfusion. Indeed, the double difficulty of first rendering the Norse into the Latin, and then the Latin into the English, and thus interposing a version in a foreign and uncongenial tongue, between the original and the English, although this last is a kindred language, very similar, in its more ancient idiom to the Icelandic, has led to many, and some very absurd errors, in what has hitherto been given as Scaldic poetry. For example, in the famous death-song of Regnar Lodbrog, that renowned warrior has been made to assert, that the joy of a bloody battle, which he had just described, was superior to that of sleeping with a young virgin; and, in another passage, he is made to aver yet more specifically, that the pleasure of battering the helmet with the keen falchion, was like that of kissing a young widow reclining upon a high seat. Now, whatever partiality Regnar might entertain for the sport of swords, the dance of Hilda, and for his favourite amusement of hacking with helmets, he had too much taste to give the preference imputed in these passages, which are thus justly rendered by Mr Herbert.

> 'Bucklers brast, and men were slain;
> Stoutest skulls were cleft in twain.
> 'Twas *not*, I trow, like wooing rest
> On gentle maiden's snowy breast.'

Again—

> ——————'where falchions keen
> Bit the helmet's polish'd sheen.
> 'Twas *not* like kissing widow sweet
> Reclining in the highest seat.'

Such was the real and unbiassed opinion of Regnar with the Hairy Breeches; and truly we heartily join in it. The elegant Mason, as well as Bishop Percy, fell into a similar blunder in

translating the Love-song of Harold the Valiant, which they understood to be a complaint, that, notwithstanding all the great deeds which he had performed, 'a Russian maiden scorned his love.' Now, this burden,

'Tho lætr gerdr i Gordum
Gullhrings vid mer skolla,'

is accurately rendered by Mr Herbert, after Perinskiold,

'With golden ring in Russian land,
To me the virgin plights her hand.'

Having noticed these gross errors, it is unnecessary to say how much of the spirit of the poetry, which is so much more volatile, must necessarily have escaped in versions, where even plain sense and meaning is so sadly corrupted. We therefore hail with pleasure an attempt to draw information from the fountain-head, especially where it is interesting both in point of intrinsic poetic merit, and as a curious source of historic investigation.

The character of the ancient Scaldic poetry is various. It is often, especially when mythological, so extremely obscure, that it defies interpretation. This seems to proceed chiefly from the metaphorical and paraphrastic style, which was considered as an high ornament in such compositions. Instead of giving the name of a person mentioned, it is the fashion to call him the son of such a one, or the brother or the spouse of such another; and as the said father, brother, or wife, had probably fifty names, it becomes extremely difficult, in many cases, to hit upon the individual who is intended. In like manner, a ship is the sea serpent, or the rider of the wave, or the *ask* or water-newt, or something else which still less readily conveys the meaning. In poems composed in this style, it seems to have been the object of the poet to convert every line into a sort of riddle, for the exercise of the ingenuity of the hearer, who was thus obliged to fight his way from one verse to another, having, for his sole reward, the pleasure of penetrating mystery, and conquering studied obscurity. Great part of the Edda of Sæmund is involved in this artificial darkness, and is therefore positively untranslateable. But in the more popular poetry, the romances, warodes, and songs sung to the great in their festivals, when their honours, like Mungo in the farce, probably wished to hear something which they could understand, another and more simple kind of poetry was adopted. The following very singular poem affords a curious specimen of this latter kind of composition; for though the personages are mythological, yet the tale is romantic, and the style of a simple kind, adapted to general comprehension. It is called the Song of Thrym, or the Recovery of the Hammer, from the principal personage and inci-

dent. This hammer was a sort of sceptre or mace, used by Thor, the Mars of the Scandinavians, and on which much of his power depended. It was probably like those maces of arms which were used in war as low as the middle of the seventeenth century. * The translation is so admirably executed, that it might be mistaken for an original.

'Wrath waxed Thor, when his sleep was flown,
And he found his trusty hammer gone;
He smote his brow, his beard he shook,
The son of earth 'gan round him look;
And this the first word that he spoke;
"Now listen what I tell thee, Loke;
Which neither on earth below is known,
Nor in Heaven above; my hammer's gone."
Their way to Freyia's bower they took,
And this the first word that he spoke;
"Thou, Freyia, must lend a winged robe,
To seek my hammer round the globe."

'FREYIA *sung.*

"That shouldst thou have, though 'twere of gold,
And that, though 'twere of silver, hold."
Away flew Loke; the wing'd robe sounds,
Ere he has left the Asgard grounds,
And ere he has reached the Jotunheim bounds.
High on a mound in haughty state
Thrym the king of the Thursi sate;
For his dogs he was twisting collars of gold,
And trimming the manes of his coursers bold.'

'THRYM *sung.*

"How fare the Asi? the Alfi how?
Why com'st thou alone to Jotunheim now?"

'LOKE *sung.*

"Ill fare the Asi; the Alfi mourn;
Thor's hammer from him thou hast torn."

'THRYM *sung.*

"I have the Thunderer's hammer bound,
Fathoms eight beneath the ground;
With it shall no one homeward tread,
Till he bring me Freyia to share my bed."
Away flew Loke; the wing'd robe sounds,
Ere he has left the Jotunheim bounds,
And ere he has reach'd the Asgard grounds.
At Mitgard Thor met crafty Loke,
And this the first word that he spoke;

* Lithgow, the Scottish traveller, mentions maces as used by the English at the siege of Newcastle in 1646, of which he gives a very curious account.

"Have you your errand and labor done?
Tell from aloft the course, you run.
For setting oft the story fails,
And lying oft the lie prevails."

'LOKE *sung.*

"My labor is past, mine errand I bring;
Thrym has thine hammer, the giant king:
With it shall no one homeward tread,
Till he bear him Freyia to share his bed."
Their way to lovely Freyia they took,
And this the first word that he spoke;
"Now, Freyia, busk, as a blooming bride;
Together, we must, to Jotunheim ride."
Wrath waxed Freyia with ireful look;
All Asgard's hall with wonder shook;
Her great bright necklace started wide.
"Well may ye call me a wanton bride,
If I with ye to Jotunheim ride."
The Asi did all to council crowd,
The Asiniæ all talk'd fast and loud;
This they debated, and this they sought,
How the hammer of Thor should home be brought.
Up then and spoke Heimdallar free,
Like the Vani, wise was he;
"Now busk we Thor, as a bride so fair;
Let him that great bright necklace wear;
Round him let ring the spousal keys,
And a maiden kirtle hang to his knees,
And on his bosom jewels rare;
And high and quaintly braid his hair."
Wrath waxed Thor with godlike pride;
"Well may the Asi me deride,
If I let me be dight, as a blooming bride."
Then up spoke Loke, Laufeyia's son;
"Now hush thee, Thor; this must be done:
The giants will strait in Asgard reign,
If thou thine hammer dost not regain."
Then busk'd they Thor, as a bride so fair,
And the great bright necklace gave him to wear;
Round him let ring the spousal keys,
And a maiden kirtle hang to his knees,
And on his bosom jewels rare;
And high and quaintly braided his hair.
Up then arose the crafty Loke,
Laufeyia's son, and thus he spoke;
"A servant I thy steps will tend,
Together we must to Jotunheim wend."

Now home the goats together hie;
Yoked to the axle they swiftly fly.
The mountains shook, the earth burn'd red,
As Odin's son to Jotunheim sped.
Then Thrym the king of the Thursi said;
"Giants, stand up; let the seats be spread:
Bring Freyia Niorder's daughter down
To share my bed from Noatun.
With horns all gilt each coal-black beast
Is led to deck the giant's feast;
Large wealth and jewels have I stored;
I lack but Freyia to grace my board."
Betimes at evening they approach'd,
And the mantling ale the giants broach'd.
The spouse of Sifia ate alone
Eight salmons, and an ox full-grown,
And all the cates, on which women feed;
And drank three firkins of sparkling mead.
Then Thrym the king of the Thursi said;
"Where have ye beheld such a hungry maid?
Ne'er saw I a bride so keenly feed,
Nor drink so deep of the sparkling mead."
Then forward lent the crafty Loke,
And thus the giant he bespoke;
"Nought has she eat for eight long nights,
So did she long for the nuptial rites."
He stoop'd beneath her veil to kiss,
But he started the length of the hall, I wiss.
Why are the looks of Freyia so dire?
It seems, as her eyeballs glisten'd with fire."
Then forward lent the crafty Loke,
And thus the giant he bespoke;
"Nought has she slept for eight long nights,
So did she long for the nuptial rites."
Then in the giant's sister came,
Who dared a bridal gift to claim;
"Those rings of gold from thee I crave,
If thou wilt all my fondness have,
All my love and fondness have."
Then Thrym the king of the Thursi said;
"Bear in the hammer to plight the maid;
Upon her lap the bruizer lay,
And firmly plight our hands and fay." *
The Thunderer's soul smiled in his breast,
When the hammer hard on his lap was placed;
Thrym first the king of the Thursi he slew,
And slaughter'd all the giant crew.

* *faith.*

He slew that giant's sister old,
Who pray'd for bridal gifts so bold.
Instead of money and rings, I wot,
The hammer's bruises were her lot.
Thus Odin's son his hammer got.' Vol. I. p. 1.—8.

In this little tale, the genius of the rude people, for whom it was composed, may easily be recognized. We were very much amused with the brutal stupidity of the giant, a quality which seems always to have been an attribute of the sons of Anak, with the rival obtuseness of intellect displayed by the godlike Thor, who, like Ajax, seems to have 'worn his brains in his belly, and his guts in his head;' and above all, with the insinuating address of the crafty Loke, who devised such marvellous good apologies for the circumstances in the bride's conduct, which excited poor Thrym's astonishment. The whole is a very curious specimen of the Northern romance. The notes upon it, and indeed throughout, display an intimate acquaintance with Scandinavian lore, and lead us to expect with anxiety a promised dissertation upon the ancient history and literature of Iceland.

Although we have selected this comic tale as one of the most entertaining, these volumes contain many strains of higher mood; many of those wild and wondrous stories of knight-errantry and witchcraft, which are the natural subjects of poetry in a rude and credulous age; and many of the songs of war and battle which stimulated the frantic valour of the Scandinavians. The following commencement of a war ode is very spirited: it is supposed to be sung by Biarko, the famous champion of Hrolfe Kraka, on the night when that monarch and all his chivalry were surprised and assassinated. It is imperfect; but Saxo-Grammaticus has favoured the world with a Latin imitation; and we think, though we are by no means certain, that something of the same kind may be found in the small volume containing the history of Hrolf Kraka, drawn up by Torfæus, and published at Copenhagen in 1715.

'The day has dawn'd; the plumed helms sound;
'Tis time to tread the battle's ground.
Wake and ay wake each friendly head,
The latest prop of Adils dead!
Strong Har, and Hrolf, whose darts ne'er fail,
Men nobly born, who never quail.
For wine, or women, wake ye not!
Wake for the battle's hardy lot!' Vol. I. p. 125.

The other translations are less generally interesting than those from the Icelandic. There is, however, one poem from the Danish, which we transcribe as an instance how very closely the ancient popular ballad of that country corresponds with our own. It is said to have been taken down in the 17th century,

from oral recitation, and that the old people at Höybye then pointed out the scene of the disastrous event, and the hill upon which divine service was performed, till the Pope recalled the interdiction.

' Sir Ebba let bigg a bower so tall,
As still each native knows;
There sing the small thrush and the nightingale,
Two damsels within it repose.

Sir Ebba he must to Iceland go
To bear his lord's behest;
That bower, I ween, his daughters two
Will find no place of rest.

Sir Bonda and Sir Schinnild there
Leagued with their mother came,
To harm Sir Ebba's daughters fair,
And work them scath and shame.

The younger brother trembled sore
To work the damsels' shame.
" Come Sir Ebba in peace to his native shore,
He venges his daughters' fame. "

Then pale and wan grew his mother's face,
And savage wax'd her heart.
" Thou bear'st not the soul of thy father's race,
But play'st a coward's part.

There's none within to check your might
Beside two varlets small;
And, were they both in iron dight,
They must before ye fall. "

Early in the morning
They whet the shining spear;
At the close of evening
Before the bower appear.

Under the lofty chamber's tier
In rush'd the knights amain;
They ask no leave, they know no fear,
But fast the chamber gain.

Up then awoke those ladies fair
To guard their maiden pride;
Sir Bonda and Sir Schinnild there
Lay by their snowy side.

The damsels wept full bitterly
With many a maiden tear;
And pray'd them for their modesty
To dread their father dear.

Up rose the knights, and went forth, ere
Day lit the mountain's side;
They thank'd for what they gain'd by fear,
But dared not longer bide.

The younger sister wailed soon,
For she fell first to shame;
" Let us sink with a stone in the billows down,
And bury our blighted fame. "

The eldest sister answer'd strait;
" Nay, gentle sister, nay,
Our sire from Iceland we'll await;
He'll venge us, if he may. "

It was the good Sir Ebba there,
From Iceland home he came;
To meet him both his daughters fair
All weeping went with shame.

" Now welcome, welcome, father dear;
So sore for you we cried;
Sir Bonda and Sir Schinnild here
Have stain'd our maiden pride. "

Sir Ebba's heart wax'd sore with woe,
To hear their mournful plight;
And, " Ill to Iceland did I go;
Now come the deadly fight! "

" You must not for our ravish'd fame
Bear helm and weapons keen;
We will by craft avenge our shame,
Though reft of honor sheen. "

It falls upon a Christmas night,
To mass the people hies;
Betimes to whet their daggers bright
Sir Ebba's daughters rise.

Now shall Sir Ebba's daughters do
A deed of scath, I ween;
But they must not to the altar go
Without their weapons keen.

Lady Metelill smiled, and a glowing hue
Gleam'd under her rosy skin;
And, " Stand ye up, like ladies true!
Let the brides of my children in! "

Sir Bonda and Sir Schinnild there
To join the mass had sped;
And Trunda young, and Zenild fair,
Did fast behind them tread.

North within the armory bright
Young Trunda drew her blade;
South before the altar's light
Sir Bonda 's fallen dead.

South beside the altar's ledge
Fair Zenild drew her knife;
North upon the grunsel edge
Sir Schinnild lost his life.

" Here stand we now as widows two,
For neither is now a maid;
And, lady, take your children two
To eat with salt and bread! "

Seven winters o'er that mournful place
Sad interdiction hung;
Nor rite was done, nor holy mass,
Nor funeral anthem sung.

On Helen's hill was a chapel built,
And there went woman and man;
Till the Pope absolved the church from guilt,
And loosed the fatal ban.' I. 22–28.

In this curious specimen of the Northern ballad, the traces of a very rude age may be discovered. The nature of the vengeance which Lady Metelill stimulates her sons to take upon the defenceless daughters of Sir Ebba, and the exulting insults with which she receives them at the church, are circumstances to be referred to a remote period of antiquity, and almost a savage state of manners. But we are most struck with its extreme resemblance, in style and structure, to the old ballads of our own country, which has been very dexterously preserved by the translator. We hope Mr Herbert will not confine his future researches to the Icelandic poetry, but will extend them to the popular poetry of Scandinavia, which we cannot help thinking is the real source of many of the tales of our minstrels. That there was a ready intercourse between the Northern romancers, and their brethren of the South, is evident from the titles of many of the MSS. which Wanley enumerates in his catalogue, as, for example, 'Sagan af Kerla Magnuse og Koppum Hans, *i.e.* the History of Charlemagne and his Paladins; Sagan af Ivant Einglands Kappe, that is, the Adventures of Sir Ywain, a champion of the Round Table, and others, whose titles obviously denote an English or French original. But, on the other hand, we suspect that our stock of popular poetry, and even that of the Anglo-Normans, was much enriched by the Northern traditions. Ugger, or Ogier the Dane, as he is called by the French romancers, however he came to be

accounted one of Charlemagne's Paladins, has evidently derived his orignal renown from some Northern saga. In King Lear, among other scraps of old songs quoted by Edgar, in his assumed madness, we have this fragment:

'Child Rowland to the dark tower came,

— — — — — — —

The word was still fee faw fum,
I smell the blood of a Christian man.'

The ballad or romance to which this quotation belongs, is to be found in the Kæmpe Visier, a Danish collection of ancient popular poetry, which we would beg leave to recommend, particularly, to the learned translator of Sir Ebba. Proud Ellen Lyle had been carried off by a sort of sea-monster or dæmon, called Rosmer; and, like Chrystalline la Curieuse, in Count Hamilton's tales, was immured by him in an enchanted dwelling. Her brother Rowland, having traversed the seas in quest of her, at length arrives at the place of her confinement, and she conceals him to prevent his being put to death by Rosmer. When that dæmon arrives, he greets his affrighted spouse with the two last lines of gigantic ejaculation—

'Fee faw fum!
I smell the blood of a Christian man.'

This curious old ballad has been lately translated by Mr Robert Jamieson of Riga, and published in a collection of Scotish ballads, with one or two others, which tend strongly to prove, that much of our popular minstrelsy was of Danish, at least of Scandinavian origin.

We have been so copious in our extracts from the Northern Poems, that we have little time to notice the others. Mr Herbert, from the formation of his style, seems to succeed best in those which he takes from the German. There is a very good translation of the Blandiné and Lenardo of Bürger, which is impressive, although strongly marked with the taste for outrageous sensibility, which disgraces most German poetry. The story is that of Tancred and Sigismunda; but Bürger, though he borrowed liberally, and without acknowledgment, from the English authors,* was unable to reach the manly vigour of Dryden, and therefore balladized the old tale as he found it in Boccacio. We are surprised to find, that some of our brother reviewers, upon the

* Witness his generously adopting Bishop Percy's beautiful ballad of the Child of Elle; and, having bestowed upon fair Ellen and her lover, the sounding names of Ritter Karl von Eichenhorst, and Fraulein Gertrude von Hochburg, his very gravely calling it an ancient German Tale.

slight foundation of a verse or two in this translation, have taxed Mr Herbert with favouring revolutionary and levelling opinions. We should think it difficult to read far in his book, without seeing traces of very opposite politics, and would be more apt to number this ingenious poet with a party who must be allowed to possess a large share of literary merit, and of whom a professed dislike to innovation has been the leading and distinguishing principle.

In the translations from the Spanish and Italian, we are chiefly displeased with a want of pliability, as it were, in Mr Herbert's language. It seems as if he had laboured among the rugged rhimes of the Scalds, until his style had become too rigid for transfusing the elegance and melody of the Southern poetry. There is, for instance, something embarrassed and cumbrous in the following expostulation of a lover to his mistress; and it would probably require more than one reading, ere the lady could comprehend the full force of the reproof.

'Charms, which are *thine*, not to bestow,
Lady, was just, I freely own.
Law to the taste was never known;
The will must teach the heart to glow.
But, while the breast is cold as snow,
Thus to pretend a mutual fire;
That, as delusive hopes expire,
Keen anguish may the bosom rend:
Such wrongs e'en pride to cowards lend,
And vengeful thoughts inspire!' II. p. 21.

The original poetry with which these translations are interspersed, displays no peculiar vigour of imagination. Indeed, the author has in general chosen subjects which have been too frequently the theme of the Muses to admit of any great novelty in the mode of treating them. Thus, we have an Ode to Despair, in the first volume, very well executed for that kind of composition; but we have now seen so many of these addresses to personified passions, and are so much accustomed to the routine of their being supplied with appropriate amusements, and a suitable pedigree, that a disagreeable and unimpressive similarity is their principal characteristic. By the way, we meet one expression in this Ode, which we cannot approve of: we hear of a mother

'——round whose side with slow consuming pang
The *barking dogs* of famine hang.'

Yet there are several instances of great felicity of expression in these original pieces; and we think the author excels in that very difficult class of which love is the subject. There is an elegance in some of these little pieces, which deserts him in his more sublime efforts; and, very contrary to the meretricious effusions

of contemporary bards, we remark, with pleasure, that the passion which his verses express, is that pure and virtuous affection which sublimes and refines all that is connected with it. The piece, upon the whole, which we are inclined to consider as decidedly unworthy of the others, is a ballad called William Lambert—a Tale, which the author seems to have suspected was too simple for publication. But, however true and pleasing the incident which it contains, the account of a boy relieved from beggary by the liberality of the Lady Margaret, and who prefers being a gardener to going to sea, cannot be considered as generally interesting. In some of the verses, the author has in fact slid into that style of tawdry and affected simplicity, which we should have thought that he who has studied popular poetry upon the manliest models, would, of all persons, have been least likely to imitate. The choice of the orphan to stay with Lady Margaret, is, for example, thus expressed.

'The little boy he hied him in,
And busk'd him in the hall;
And soon he was all trimly dight,
And waxed stout withal.

"A boon (he cried) fair Lady mine!
O send me not to sea!
For thou must be mine only friend,
And I must bide with thee.

O let me here thy garden tend,
Hard by this pleasant bow'r;
Here deck the lawn with careful hand,
And rear each scented flow'r;

The soft primrose, the violet blue,
The glowing celandine;
And cuckoo-buds, and sorrel pale,
And luscious sweet woodbine." II. p. 85, 86.

This is not genuine ballad poetry, which Mr Herbert can write when he pleases; but that spurious kind, which trickles through Sir Eldred's of the Bower, and other legendary ditties of the 18th century. It is the very last refuge of those who can do nothing better in the shape of verse; and a man of genius should disdain to invade the province of these dawdling rhymers.

Having discharged this unpleasing part of our task, we only add, that we wait with impatience for new information from Asgard, Midgard, and Jotunheim.

To the first volume there is added a Greek translation of Berrathon from Ossian, and a translation from Gesner into the same language, the last by William Frere.

ART. XVI. *Some Account of the Life and Writings of Lope Felix de Vega Carpio.* By Henry Richard, Lord Holland. 8vo. pp. 294. London, 1806.

THIS is evidently the work of a person of taste and intelligence, not much accustomed to write with a view to publication. It is composed in an easy, conversational style, with very little of the getting up of authorship, or the parade of literary accomplishments. It is written, however, in a very pleasing and lively manner, and indicates great good sense and liberality of sentiment; although the want of pretension is sometimes carried the length of carelessness, and the want of method is sometimes productive of considerable embarrassment. We are told, for instance, of Lope's elopement from school, and of his early addiction to poetry, some pages before we are informed of his birth: And many of the critical remarks on his genius and compositions, which are subjoined to the narrative of his life, and form the larger division of the volume before us, are rather unskilfully anticipated in the sketch which is given of the biography. The candour, sagacity, and good humour of the noble author, however, make ample amends for these little blemishes; and entitle the work to be considered as one of the most valuable contributions that has lately been made to our knowledge of Spanish literature.

Little is known of the history of this poetical prodigy, except what can be gathered from incidental notices in his own works, and from the eloge composed upon him by his admirer and contemporary Montalvan, who has thought it better to display his ingenuity in hyperbolical praises, than to record any of the facts which it might be interesting to posterity to learn. Perhaps it is from this cause that Lord Holland has omitted to inform us of the name of either of his parents, or of their fortune and condition in society. He was born, however, at Madrid, in 1562; and, before he was twelve years of age, he had composed several dramas in four acts. At the age of thirteen, he seems to have been seized with that restless spirit of enterprize and adventure, by which his countrymen were then so remarkably distinguished, and made his escape from school, in order to indulge his desire of seeing the world. His ramble, however, was stopped at Astorga, by the interference of a magistrate, and he was sent back to his lessons under the charge of a constable. He afterwards studied philosophy at Alcala, and was received with great distinction by the Duke of Alva, to whom he was presented at a very early age, and to whom he dedicated his Arcadia, the first

work of any considerable magnitude which he gave to the world. After this he appears to have resided for some time in the family of that powerful patron, and only to have left him upon the event of his marriage. After this he continued to write verses with as much ease and celebrity as before; and having wounded a rival poet in a duel, he was under the necessity of leaving Madrid, and taking up his residence for some time at Valencia. In a few years he returned with increased reputation to his native city, and very soon after sustained a severe shock from the death of his wife. To dissipate the melancholy produced by this disaster, he embarked in the celebrated Armada which was then fitting out to invade our coasts; and besides his share in the general discomfiture of the expedition, had to witness the afflicting spectacle of the death of his only brother, who expired at sea in his arms. During this calamitous voyage, however, he has himself assured us, that he composed his epic poem of the Hermosura de Angelica, in which he has attempted to complete what Ariosto left unfinished. The poem, however, was not published till 1602, when it made its appearance along with another epic, entitled the Dragontea, in which the crimes and the punishment of the English Admiral, Sir Francis Drake, are exhibited for the edification of all true Catholics.

In 1590, he seems to have returned to Madrid, and soon after to have married again. Of the rapidity with which he wrote, some idea may be formed from the following little anecdote.

'In 1598, on the canonization of St Iſidore, a native of Madrid, he entered the liſt with ſeveral authors, and overpowered them all with the number, if not with the merit, of his performances. Prizes had been aſſigned for every ſtyle of poetry, but above one could not be obtained by the ſame perſon. Lope ſucceeded in the hymns; but his fertile muſe, not content with producing a poem of ten cantos in ſhort verſe, as well as innumerable ſonnets and romances, and two comedies on the ſubject, celebrated by an act of ſupererogation both the ſaint and the poetical competition of the day, in a volume of ſprightly poems under the feigned name of Tomé de Burguillos.' p. 42, 43.

Soon after this he had the misfortune to lose his second wife and his only son; and seems to have been so much overpowered with these severe afflictions, that, after having served an apprenticeship as secretary to the Inquisition, he became a priest, and entered into the brotherhood of St Francis. He was engaged, at this time, in a sort of critical and literary feud with Cervantes, Gongora, and several other writers of distinction; but maintained his own popularity, and the merit of the style he had adopted, by such a multitude of successful productions, as put all his adversaries to silence. He afterwards produced his Jerusalem Con-

quistada, as a sequel to the epic of Tasso; and continued, for several years, as Lord Holland has expressed it, 'seldom passing a year without giving an epic to the press, and scarcely a month, or even a week, without producing some play upon the stage.'

His reputation had now obtained a height, which, we believe, was never reached before by any living author.

'He dedicated,' says Lord Holland, 'his Corona Tragica, a poem on the Queen of Scots, to Pope Urban VIII., who had himself composed an epigram on the subject. Upon this occasion he received from that pontiff a letter written in his own hand, and the degree of doctor of theology. Such a flattering tribute of admiration sanctioned the reverence in which his name was held in Spain, and spread his fame through every Catholic country. The cardinal Barberini followed him with veneration in the streets; the King would stop to gaze at such a prodigy; the people crowded round him wherever he appeared; the learned and the studious thronged to Madrid from every part of Spain to see this phœnix of their country, this "monster of literature;" and even Italians, no extravagant admirers in general of poetry that is not their own, made pilgrimages from their country for the sole purpose of conversing with Lope. So associated was the idea of excellence with his name, that it grew, in common conversation, to signify any thing perfect in its kind; and a Lope diamond, a Lope day, or a Lope woman, became fashionable and familiar modes of expressing their good qualities. His poetry was as advantageous to his fortune as to his fame: the King enriched him with pensions and chaplaincies; the Pope honoured him with dignities and preferments; and every nobleman at court aspired to the character of his Mæcenas, by conferring upon him frequent and valuable presents. His annual income was not less than 1500 ducats, exclusive of the price of his plays, which Cervantes insinuates that he was never inclined to forego, and Montalvan estimates at 80,000. He received in presents from individuals as much as 10,500 more. His application of these sums partook of the spirit of the nation from which he drew them. Improvident and indiscriminate charity ran away with these gains, immense as they were, and rendered his life unprofitable to his friends and uncomfortable to himself.' p. 64—67.

It affords a striking and almost incredible instance of the immeasurable desires and extravagant ambition of poets to learn, that the person thus honoured and rewarded, thought fit to complain, in some of his latest publications, of the neglect, obscurity, and poverty, in which an ungrateful age had allowed him to languish!

In 1630 he published his Laurel de Apolo, in which no fewer than 300 Spanish poets are characterized and commemorated; and continued to write plays, and receive applauses, till 1635, when his devotional habits degenerated into a hypochondriasm which bordered upon insanity; and he is said to have died in the latter end of that year, in consequence of the extreme severity with

which he had performed upon himself the discipline of flagellation.

Such are the few facts which the industry of Lord Holland has been able to collect with regard to this phœnix of Spanish literature; and whether or not they are sufficient to redeem the lives of celebrated authors from the heavy charge of being tranquil and undisturbed, it must be admitted, that they serve abundantly to show that such celebrity has no necessary connexion with respectability or happiness. This favourite of fortune, fame, and genius, was tormented all his days by a restless and discontented vanity; was the slave of jealousy, bigotry, and envy; and died at last a victim to the most degrading and miserable superstition.

When any one takes the trouble of writing a book upon the works of a foreign author, it is scarcely possible to resist the temptation of magnifying his merits a little beyond their true dimensions. It is natural to wish that the stranger whom we introduce should make a favourable impression, and to feel some anxiety to satisfy others that we have not cultivated an acquaintance with one altogether unworthy of distinction. An observant reader may perhaps discover some traces of this partiality in the work before us; but it is but fair to Lord Holland to observe, that they are infinitely less apparent than in any other production of the kind we remember to have met with. He acknowledges, we think, with great candour, that Lope was more of a prodigy than a poet; and, though he claims some merit for him on the score of dramatic invention, he admits that his works are chiefly remarkable for their incredible multitude, and for the astonishing facility and despatch with which they were written. In this respect, indeed, he must be allowed to outstrip all writers ancient and modern. The gentleman in Horace, who made two hundred lines standing on one foot, was nothing at all to the scribbling improvisatore of Madrid; and the folio volumes of Sir Richard Blackmore, and the Dutchess of Newcastle, shrink into perfect insignificance beside the mountain of his productions. He outweighs any ten German civilians or commentators; and shoots far ahead, even of the longwinded Hindu, who spins out his immeasurable mythology into the mazes of the Bagavat Geeta. Lord Holland gives the following account of his fruitfulness.

'As an author he is most known, as indeed he is most wonderful, for the prodigious number of his writings. Twenty-one million three hundred thousand of his lines are said to be actually printed; and no less than eighteen hundred plays of his composition to have been acted on the stage. He nevertheless asserts in one of his last poems, that

'No es minima parte, aunque es exceso,
De lo que está por imprimir, lo impreso.'

'The printed part, though far too large, is less
Than that which yet unprinted waits the press.'

It is true that the Castilian language is copious; that the verses are often extremely short; and that the laws of metre and of rhyme are by no means severe. Yet were we to give credit to such accounts, allowing him to begin his compositions at the age of thirteen, we must believe that upon an average he wrote more than nine hundred lines a day; a fertility of imagination, and a celerity of pen, which, when we consider the occupations of his life as a soldier, a secretary, a master of a family, and a priest; his acquirements in Latin, Italian, and Portuguese, and his reputation for erudition, become not only improbable, but absolutely, and, one may almost say, physically impossible.

'As the credibility however of miracles must depend upon the weight of evidence, it will not be foreign to the purpose to examine the testimonies we possess of this extraordinary facility and exuberance of composition. There does not now exist the fourth part of the works which he and his admirers mention; yet enough remains to render him one of the most voluminous authors that ever put pen to paper. Such was his facility, that he informs us in his Eclogue to Claudio, that more than a hundred times, he composed a play, and produced it on the stage in twenty-four hours. Montalvan declares that he latterly wrote in metre with as much rapidity as in prose; and in confirmation of it he relates the following story.

"His pen was unable to keep pace with his mind, as he invented even more than his hand was capable of transcribing. He wrote a comedy in two days, which it would not be very easy for the most expeditious amanuensis to copy out in the time. At Toledo he wrote fifteen acts in fifteen days, which make five comedies. These he read at a private house, where Maestro Joseph de Valdebieso was present and was witness of the whole; but because this is variously related, I will mention what I myself know from my own knowledge. Roque de Figueroa, the writer for the theatre at Madrid, was at such a loss for comedies that the doors of the theatre de la Cruz were shut; but as it was in the Carnival, he was so anxious upon the subject, that Lope and myself agreed to compose a joint comedy as fast as possible. It was the Tercera Orden de San Francisco, and is the very one in which Arias acted the part of the saint more naturally than was ever witnessed on the stage. The first act fell to Lope's lot, and the second to mine; we despatched these in two days, and the third was to be divided into eight leaves each. As it was bad weather, I remained in his house that night; and knowing that I could not equal him in the execution, I had a fancy to beat him in the despatch of the business; for this purpose I got up at two o'clock, and at eleven had completed my share of the work. I immediately went out to look for him, and found him very deeply occupied with an orange-tree that had been frost-bitten in the night. Upon my asking him how he had gone on with his task, he answered, "I set about it at five; but I finished the act an hour ago; took a bit of ham for

breakfaſt; wrote an epiſtle of fifty triplets, and have watered the whole of the garden: which has not a little fatigued me." Then taking out the papers, he read me the eight leaves and the triplets; a circumſtance that would have aſtoniſhed me, had I not known the fertility of his genius, and the dominion he had over the rhymes of our language."

'As to the number of his plays, all contemporary authors concur in repreſenting it as prodigious. "At laſt appeared," ſays Cervantes in his prologue, "that prodigy of nature, the great Lope, and eſtabliſhed his monarchy on the ſtage. He conquered and reduced under his juriſdiction every actor and author in the kingdom. He filled the world with plays written with purity, and the plot conducted with ſkill, in number ſo many that they exceed eighteen hundred ſheets of paper; and, what is the moſt wonderful of all that can be ſaid upon the ſubject, every one of them have I ſeen acted, or heard of their being ſo from thoſe that had ſeen them; and though there have been many who have attempted the ſame career, all their works together would not equal in quantity what this ſingle man has compoſed." Montalvan aſſerts that he wrote eighteen hundred plays, and four hundred autos ſacramentales; and aſſerts, that if the works of his literary idol were placed in one ſcale, and thoſe of all antient and modern poets in the other, the weight of the former would decide the compariſon in point of quantity, and be a fair emblem of the ſuperiority, in point of merit, of Lope's verſes over thoſe of all other poets together.' p. 75—82.

Allowing every reasonable deduction for mistake and exaggeration, enough will still be left to render this a very interesting and extraordinary account. Such instances of intellectual agility, are as curious, though probably as useless, as the wonderful accomplishments of the body; and a man who can write two thousand verses in a day, is as well worth crowding after, as one who can walk two hundred miles in the same period, or balance ten tobacco pipes on different parts of his body. The comparison will appear more tolerable, when it is considered what were the feats upon which Lope seems chiefly to have valued himself.

'The moſt ſingular circumſtance,' ſays Lord Holland, 'attending his verſe, is the frequency and difficulty of the taſks which he impoſes on himſelf. At every ſtep we meet with *acroſtics*, *echoes*, and compoſitions of that perverted but laborious kind, from attempting which another author would be deterred by the trouble of the undertaking, if not by the little real merit attending the achievement. They require no genius, but they exact much time; which one ſhould think that ſuch a voluminous poet could little afford to waſte. But Lope made a parade of his power over the vocabulary; he was not contented with diſplaying the various order in which he could diſpoſe the ſyllables and marſhal the rhymes of his language, but he alſo prided himſelf upon the celerity with which he brought them to go through the moſt whimſical but the moſt difficult evolutions. He ſeems to have been partial to difficulties, for the gratification of ſurmounting them.' p. 201—2.

Of the poetical merit of these hasty productions, Lord Holland has given the following short and impartial character.

'Their merit consists chiefly in smoothness of versification and purity of language, and in facility rather than strength of imagination. He has much to say on every subject, and he expresses what he has to say in an easy style and flowing numbers; but he seldom interests the feelings, and never warms the imagination of the reader, though he often pleases by the facility and beauty of his language, and occasionally surprises by the exuberance and ingenuity of his illustrations. From this character of his writings, it will naturally be supposed that his epic poems are among the least brilliant of his compositions. Even the faculty of inventing an interesting story, for which, as a dramatic writer, he was so deservedly celebrated, seems to have forsaken him when he left the stage. His novels and epic poems are alike tedious and uninteresting.' p. 86—7.

'I have never read the Circe or the Andromeda. The Dragontea is full of virulent and unpoetical abuse, and gives a false account of the death of Sir Francis Drake. The Arcadia is, I believe, the best of his pastorals. They are not in general very accurate representations of the manners of shepherds, nor do they even afford many specimens of simple or natural poetry; but they all, especially the Pastores de Belen, contain translations, elegies, songs, and hymns, of considerable merit. In them are also to be found some of his most celebrated odes. Indeed, Spanish critics, and more especially Andres, who is far from being partial to his countrymen, seem to consider him as a great lyric poet. I do not venture to express any opinion upon compositions of that nature, because, after humorous and burlesque works, they are those of which a foreigner is least capable of forming a judgement. If, indeed, the admiration of strangers be an object, Lope must be considered as unlucky. His light and burlesque poems, most of which he published under the feigned name of Thomé de Burguillos, are those most generally admired by his countrymen. Of these, the Gatomachia, a mock heroic poem, is esteemed the best, and often cited as a model of versification. They are all sprightly, and written with ease; but their length makes one occasionally lament a facility which rendered the termination of any work of Lope, an act of grace to his readers, and not a matter of necessity to him.

'His epistles and didactic works are not much admired in Spain; but, though not exempt from the same defect, they seem to me replete with observation and good sense, conveyed in very pleasant language and flowing versification.' 93—5.

Of the Arcadia, he afterwards observes—

'The species of composition is in itself tedious, and the conduct of the Arcadia evidently absurd. A pastoral in five long books of prose run mad, in which the shepherds of Arcadia woo their Dulcineas in the language of Amadis rather than of Theocritus, in which they occasionally talk theology, and discuss in verse the origin

and nature of grammar, rhetoric, arithmetic, geometry, music, astrology, and poetry, and which they enliven by epitaphs on Castilian generals, and a long poem on the achievements of the Duke of Alva, and the birth of his son, is not well adapted to the taste of common readers, or likely to escape the censure of critics.'—'There are in it many harmonious lines, some eloquence, great facility and occasionally beauty of expression, and, above all, a prodigious variety of maxims, similes, and illustrations. These merits, however, are disfigured by great deformities. The language, though easy and fluent, is not the language of nature; the versification is often eked out by unnecessary exclamations and unmeaning expletives; and the eloquence is at one time distorted into extravagant hyperbole, and at another degenerates into low and tedious commonplace. The maxims, as in all Spanish authors of that time, are often trivial and often untrue. When they have produced an antithesis, they think they have struck out a truth. The illustrations are sometimes so forced and unnatural, that though they may display erudition and excite surprise, they cannot elucidate the subject, and are not likely to delight the imagination. They seem to be the result of labour, and not the creation of fancy; and partake more of the nature of conundrums and enigmas, than of similes and images. Forced conceits and play upon words are indeed common in this as in every work of Lope de Vega; for he was one of the authors who contributed to introduce that taste for false wit, which soon afterwards became so universally prevalent throughout Europe. Marino, the champion of that style in Italy, with the highest expressions of admiration for his model, acknowledges that he imbibed this taste from Lope, and owed his merit in poetry to the perusal of his works. There is one species of this false taste, which is particularly common in the Arcadia, and at the same time very characteristic of the poet's style in general. It is an accumulation of strained illustrations upon some particular subject, each generally included in the same number of lines, and all recapitulated at the end of the passage. The song of the Giant to Chrisalda, in the first book, is the most singular instance of this conceit, but is much too long to be transcribed. It is divided into seven strophes or paragraphs, most of which are subdivided into seven stanzas of four lines: in each stanza the beauty of Chrisalda is illustrated by two comparisons; and the names of the things to which she is compared are enumerated in the last stanza of each strophe, which alone consists of six lines, and which is not unlike a passage in the *Propria quæ maribus*, being chiefly composed of nouns substantive, without the intervention of a single verb. In the first strophe, she is compared to fourteen different celestial objects; in the next, to ten species of flowers; in the third, to as many metals and precious stones; in the fourth, to eleven birds of different sorts; in the fifth, to twelve trees of different names; in the sixth, to as many quadrupeds; and in the last, to the same number of marine productions.' p. 12. 14—17.

Of his six epics, Lord Holland leaves his readers to form their opinion from the general character which we have already extracted, and from an abstract of the Hermosura de Angelica, in which it is confessed to be full of tedious, minute, and commonplace description, and narrative without spirit, circumstance, or poetry. The Corona Tragica, which was, during his life, the most popular of all his productions, Lord Holland conjectures to have been indebted for its reception chiefly to the spirit of Catholic zeal and acrimony by which it is distinguished. Queen Elizabeth is there honoured with the sublime epithets of a bloody Jezebel, an obdurate sphinx, and the incestuous progeny of a harpy. Charles V. is extolled for nothing but his treachery to the Protestants; and Philip II., who is censured for not murdering Queen Elizabeth during the orthodox reign of her sister, is chiefly applauded for the persecution of his Brabantian subjects, and the expulsion of the Moors.

It is chiefly as a dramatic writer, however, that Lope is remembered by his countrymen, and known by reputation to the scholars of other countries. Lord Holland considers him as one of the great founders of the modern drama; and introduces his observations on his plays by the following excellent remarks on the comparative merits of the ancient and modern theatre.

'There are many excellences to which all dramatic authors of every age must aspire; and their success in these, forms the just point of comparison; but, to censure a modern author for not following the plan of Sophocles, is as absurd as to object to a fresco that it is not painted in oil colours; or, as Tiraboschi, in his parallel of Ariosto and Tasso, observes, to blame Livy for not writing a poem instead of a history. The Greek tragedians are probably superior to all moderns, if we except Racine, in the correctness of their taste, and their equals at least in the sublimity of their poetry, and in the just and spirited delineation of those events and passions which they represent. These, however, are the merits of the execution, rather than of the design; the talents of the disciple, rather than the excellence of the school; and prove the skill of the workman, not the perfection of the system. Without dwelling on the expulsion of the Chorus, (a most unnatural and inconvenient machine), the moderns, by admitting a complication of plot, have introduced a greater variety of incidents and characters. The province of invention is enlarged; new passions, or at least new forms of the same passions, are brought within the scope of dramatic poetry. Fresh sources of interest are opened, and additional powers of imagination called into activity. Can we then deny what extends its jurisdiction, and enhances its interest, to be an improvement in an art, whose professed object is to stir the passions by the imitation of human actions? In saying this, I do not mean to justify the breach of decorum, the neglect of probability, the anachronisms, and other extravagances of the founders of the modern

theatre. Becauſe the firſt diſciples of the ſchool were not models of perfection, it does not follow that the fundamental maxims were defective. The rudeneſs of their workmanſhip is no proof of the inferiority of the material; nor does the want of ſkill deprive them of the merit of having diſcovered the mine. The faults objected to them form no neceſſary part of the ſyſtem they introduced. Their followers in every country have either completely corrected, or gradually reformed, ſuch abuſes. Thoſe who bow not implicitly to the authority of Ariſtotle, yet avoid ſuch violent outrages as are common in our early plays; and thoſe who pique themſelves on the ſtrict obſervance of his laws, betray, in the conduct, the ſentiments, the characters, and the dialogue of their pieces (eſpecially of their comedies) more reſemblance to the modern than the ancient theatre. Their code may be Grecian; but their manners, in ſpite of themſelves, are Spaniſh, Engliſh or French:—they may renounce their pedigree, and even change their dreſs; but they cannot diveſt their features of a certain family likeneſs to their poetical progenitors. The beginning of this race of poets, like the origin of nations, is ſomewhat obſcure. It would be idle to examine where the firſt play upon ſuch a model was written; becauſe many of the earlieſt dramas in every modern language are loſt. But to whatever nation the invention is due, the prevalence of the modern ſyſtem is in a great meaſure to be attributed to Spain; and perhaps more to Lope de Vega than to any other individual of that country.' p. 96—100.

In purſuing his obſervations on the plays of this inexhauſtible author, Lord Holland admits, that the incidents are often in the highest degree unnatural and improbable; that his tragedies are ſtuffed full of inconſiſtencies and abſurdities; and his comedies, of plots and intrigues,—which ſerve no other purpoſe but that of aſtoniſhing the ſpectator: that he is deſtitute of pathos or natural expreſſion; and that the chief merit of his dramatic pieces conſiſts in the multitude and rapidity of the incidents, and that unlimited power of invention by which the author was enabled to crowd into moſt of his tragedies as much plot as would ſerve for at leaſt four plays on any other theatre.

The names of Lope and Shakeſpeare are often united by foreigners. The conjunction, we think, is very profane and irreverent. Lord Holland ſpeaks of it with more temper than we think quite laudable.

'Lope was contemporary with both Shakeſpeare and Fletcher. In the choice of their ſubjects, and in the conduct of their fables, a reſemblance may often be found, which is no doubt to be attributed to the taſte and opinions of the times, rather than to any knowledge of each other's writings. It is indeed in this point of view that the Spaniſh poet can be compared, with the greateſt advantage to himſelf, to the great founder of our theatre. It is true, that his imagery may occaſionally remind the Engliſh reader, of Shakeſpeare; but his ſentiments, eſpecially in tragedy, are more like Dryden and his contemporaries, than

their predeceſſors. The feelings of Shakeſpeare's characters are the reſult of paſſions common to all men. The extravagant ſentiments of Lope's, as of Dryden's heroes, are derived from an artificial ſtate of ſociety, from notions ſuggeſted by chivalry, and exaggerated by romance. In his delineation of character he is yet more unlike, and, it is ſcarce neceſſary to add, greatly inferior; but in the choice and conduct of his ſubjects, if he equals him in extravagance and improbability, he does not fall ſhort of him in intereſt and variety. A rapid ſucceſſion of events, and ſudden changes in the ſituation of the perſonages, are the charms by which he intereſts us ſo forcibly in his plots.'—'Among the many I have read, I have not fallen on one which does not ſtrongly fix the attention; and though many of his plots have been transferred to the French and Engliſh ſtage, and rendered more correct and more probable, they have ſeldom or never been improved in the great article of exciting curioſity and intereſt. This was the ſpell by which he enchanted the populace, to whoſe taſte for wonders, he is accuſed of having ſacrificed ſo much ſolid reputation.' p. 126—9.

We should have wished to have heard a little more of the perſonage mentioned in the latter part of the following extract. The Gracioso of the Spanish stage is evidently the Clown of the old English comedy, although admitted to perform a much more important and offensive part in the former, than was ever assigned to him, we believe, in the latter. In Spain, indeed, he seems to be a very coarse and clumsy substitute for the Chorus; and the admirers of that ancient invention may probably derive some argument in its favour, from the singular fact of its recurrence in a different form among those who boasted of a total emancipation from the shackles of classical antiquity. The encomium of Voltaire, by which the subject is introduced, has no very close connexion with the merits of the Gracioso; but we are tempted to insert it at length, both on account of its truth, and the liberality by which it is dictated.

'Till Voltaire appeared, there was no nation more ignorant of its neighbours' literature than the French. He firſt expoſed, and then corrected, this neglect in his countrymen. There is no writer to whom the authors of other nations, eſpecially of England, are ſo indebted for the extenſion of their fame in France, and, through France, in Europe. There is no critic who has employed more time, wit, ingenuity, and diligence, in promoting the literary intercourſe between country and country, and in celebrating in one language the triumphs of another. Yet, by a ſtrange fatality, he is conſtantly repreſented as the enemy of all literature but his own; and Spaniards, Engliſhmen, and Italians, vie with each other in inveighing againſt his occaſional exaggeration of faulty paſſages; the authors of which, till he pointed out their beauties, were ſcarce known beyond the country in which their language was ſpoken. Thoſe who feel ſuch indignation at his miſrepreſentations

and mistakes, would find it difficult to produce a critic in any modern language, who, in speaking of foreign literature, is better informed or more candid than Voltaire; and they certainly never would be able to discover one, who to those qualities unites so much sagacity and liveliness. His enemies would fain persuade us, that such exuberance of wit implies a want of information; but they only succeed in showing, that a want of wit by no means implies an exuberance of information. If he indulges his propensity to ridicule in exposing the absurdities of the Spanish stage, he makes ample amends, by acknowledging that it is full of sublime passages, and not deficient in interesting scenes: He allows the Spanish poets full credit for their originality, and acknowledges them to have been Corneille's masters, though much excelled by their disciple. He objects, indeed, to the buffoonery of many of their scenes; and the Gracioso might surely offend a critic who had less right to be fastidious than the author of Mahomet and of Zara. That preposterous personage not only interlards the most interesting scenes with the grossest buffooneries, but, assuming the amphibious character of spectator and actor, at one time interrupts, with his remarks, the performance, of which he forms an essential but very defective part, in another. He seems, indeed, invented to save the conscience of the author, who, after any extravagant hyperbole, puts a censure or ridicule of it in the mouth of his buffoon, and thereby hopes to disarm the critic, or at least to record his own consciousness and disapprobation of the passage. This critical acumen is the only estimable quality of the Gracioso. His strictures on the conduct of the characters, the sentiments, expressions, and even the metre, are generally just; though they would better become the pit than the stage. In other respects, he is uniformly a designing, cowardly, interested, knave: but Lope found his account in the preservation of this character, and was happy to reconcile the public to an invention so convenient to the poet. As any topic could be introduced in this part, he was thus enabled to fill up whole scenes with any verses he might have by him ready composed. Nor was this all: at the conclusion of a complicated plot, when the author is unable to extricate himself from the embarrassments he has created, in any probable manner, the buffoon steps forward, cuts the Gordian knot, explains away the difficulty, discloses the secret, and decides upon the fate and marriages of all who are present. His oracles, like those of fools in some courts, are looked upon as inspired; and rivals, who had been contending during the whole play, acquiesce, without a murmur, in his decisions.' p. 190–4.

In order to illustrate his remarks upon the peculiar style of his author, and at the same time to enable his readers to judge for themselves of his merits, Lord Holland has presented us with a copious abstract of one of Lope's best pieces, La Estrella de Sevilla, which has been lately revived, with some alterations, at Madrid, and has exhibited some of the most striking scenes, both in the original, and in a very close and spirited translation. We

cannot afford to lay any part of this abstract before our readers; but we think the play a good deal more tame and unnatural than Lord Holland seems willing to allow.

The most entertaining part of the volume, perhaps, is that in which the noble author presents us with a short historical sketch of the Spanish stage, illustrated by some very liberal and judicious speculations on the causes which brought about its decline, and may probably operate its revival.

One of the earliest and most constant obstacles with which it has had to contend, was the hostility and court intrigues of the ascetic and superstitious clergy. During the whole of his life, Lope had to sustain the attack of this powerful and indefatigable enemy, of whose zeal and perseverance some estimate may be formed from the following animated passage.

'In arraigning his writings, and railing at his character, they lost sight of truth as well as candour; they styled him the disgrace of the age and of the nation; the shame of his profession; and the author, as a reverend writer expresses it, of more mischiefs to the world than thousands of devils. By such invectives, they endeavoured to ruin his fortunes, and harass his conscience. The temporary prohibition of his plays, which these censures extorted from the Court, shows that they made considerable impression on the public; and the severity of the discipline which Lope afterwards inflicted upon himself, might gratify his uncharitable enemies with the reflection, that though they had failed in suppressing his works, they had embittered his satisfaction at their success with strong feelings of remorse. Since this war between the pulpit and the stage first commenced, no permanent reconciliation has ever taken place; and though dramatic representations have generally kept their ground, their adversaries have obtained many temporary and local advantages over them, which have often impeded their progress, and sometimes have seemed to threaten their existence. Even during the reign of Charles the Third, all the theatres were suppressed for several years. Some bishops, during the present reign, have forbidden plays in their diocese; and the inhabitants of Seville, in the late epidemical disorder, solemnly renounced, in a fit of devotion, the amusement of the theatre, as the surest method of appeasing divine vengeance. Since that act of self-denial, they have confined the gratification of their taste for public exhibitions, to the butchery of bulls, horses, and men, in the arena. These feasts are encouraged by the munificence, and often honoured by the presence, of the King. But no monarch, since Philip the Fourth, has ventured to sanction a public play by his presence. Some, indeed, have indulged their taste for operas within the walls of the palace; but the present King is said to be convinced of their evil tendency; and, if he has not exerted himself to the utmost of his power to deter others, has uniformly and scrupulously preserved himself from the contamination of a theatre. If such scruples can exist, even in our times, it may readily be supposed that Philip the Second was not

proof againſt arguments ſo congenial to his gloomy habits and ſaturnine temper. He was accordingly ſtaggered by the cenſures of Mariana and the clergy; but, luckily for the intereſts of poetry and the gaiety of Europe, he referred the queſtion to the univerſity of Salamanca, where, after much diſcuſſion, it was decided in favour of the ſtage.' p. 109–12.

The effect which this perſecution was likely to have, in depreſſing or perverting the talents of those who might otherwiſe have diſtinguiſhed themſelves in this ſeducing department of literature, may be calculated from the extreme abſurdity of those ſacred dramas, to which the muſe of Lope himſelf was occaſionally reſtricted by the interference of those ghoſtly cenſors. Lord Holland has given a very entertaining account of ſeveral of those edifying performances. The following may ſerve as a ſpecimen.

'In the Animal Profeta, St Julian, after having plotted the murder of his wife, and actually accompliſhing that of his father and mother, enters into a controverſy with the Devil, as to the poſſibility of being ſaved; and when Jeſus Chriſt deſcends from heaven to effect a miracle for that purpoſe in his favour, the Devil, with much logical preciſion, alleges ſuch mercy to be a breach of the original contract between him and the Almighty. He inſinuates, indeed, that if he cannot reckon upon a parricide, he may as well give over his buſineſs in ſouls, as there is no appearance of fair dealing in the trade.' p. 180, 181.

The moſt formidable obſtacle, however, which the dramatic genius of Spain had to encounter, was, not the bigotry of the prieſthood, but the general debaſement of the nation, and the influence of a Bourbon court. The following ſketch is given with the ſpirit and partiality of an old Caſtilian.

'The age of Calderon, the brilliancy of whoſe comedies, aided by the novelty and magnificence of expenſive ſcenery, had ſomewhat outſhone the luſtre of Lope's exhibitions, was ſucceeded by a period of darkneſs and diſgrace, as fatal to the literary as to the political influence of Spain. By the time that the public had ſufficiently recovered from the amazement which Calderon's works had produced, to compare him calmly with his predeceſſors, they had become too indifferent about all that concerned the ſtage, to be at the pains of eſtimating the beauties of any dramatic author. The ſplendour of Philip the Fourth's court, ſurvived the defeat of his arms, and the loſs of his provinces; but it died with that improvident and oſtentatious monarch. Under the feeble ſovereign who ſucceeded him, not only were the theatres ſhut, and the plays prohibited, but all ardour in literary purſuits, all genius for poetry, all taſte for the arts and ornaments of life, ſeemed to waſte away as rapidly as the reſources and glory of the kingdom he miſgoverned. In the mean while, France roſe upon the ruins of her rival. The ſucceſſors of Corneille refined and improved a language, which the increaſing power of the ſtate had made it convenient to ſur-

rounding nations to ſtudy, and to which the extenſive intrigues and wars of Louis the Fourteenth had given, as it were, an unuſual currency in Europe. Faſhion, which is often as peremptory in literature as in dreſs, enjoined the adoption of French rules of criticiſm; and an arbitrary ſtandard of excellence was erected, without any regard to the different genius of languages, and the various uſages and modes of thinking which diſtinguiſh one people from another. Hence, when, towards the middle of the laſt century, the love of letters ſeemed to revive in Spain, there aroſe a ſet of critics, men of conſiderable information and eloquence, who, in their anxiety to inculcate correct principles of compoſition into their countrymen, endeavoured to wean their affections from thoſe national poets, by whom the public taſte had, according to them, been originally vitiated. The names of Vega, Calderon, Moreto, and others, which, in the general decline of literature, had in a great meaſure fallen into neglect and oblivion, were now only quoted to expoſe their faults, and to point out their inferiority to foreign models of excellence. The diſapprobation of all dramatic performances, the occaſional preference of Italian operas, and, above all, French modes of thinking on matters of taſte, naturally prevalent at a Bourbon court, threw the old Spaniſh ſtage into diſrepute; and an admiration of ſuch authors paſſed with the wits for a perverſion of judgment, and with the faſhionable for a remnant of national prejudice and vulgarity. Many enlightened individuals, alſo, who were anxious to reform more important abuſes than the mere extravagances of a theatre, encouraged this growing predilection for French literature. They might feel a very natural partiality for a language from which they had themſelves derived ſo much inſtruction and delight; or they might ſtudiouſly direct the attention of their countrymen to French poetry, from a conviction, that a familiarity with the works of Racine and Boileau, would ultimately lead them to an acquaintance with thoſe of Paſcal and Monteſquieu, and perhaps of Bayle and Voltaire.' p. 220–4.

The triumph of this party was ensured and extended by the injudicious conduct of the few who attempted to defend the old national drama against its encroachments. Partly by bestowing extravagant praises on some of its most faulty and extravagant productions, and partly by affecting to undervalue the indisputable excellence of the French models, they brought discredit upon the cause they professed to defend, and compelled the candid and judicious to take part against them. It required but little ingenuity to combat the opinions of those who maintained that the unprinted plays of Lope de Rueda were the models of Corneille and Moliere; that the *Athalie* should have been confined to the walls of a convent; and that the *Tartuffe* was a miserable farce, without humour, character, or invention. It was by other means that the reputation of the old Spanish dramatists was ultimately redeemed, and the honours of Lope and his followers in some measure restored.

'Insipid imitations of French dramas, and bald translations of modern pieces, in which the theatres of Madrid for some years abounded, have at length done more to restore the writers of Philip the Fourth's age to their due estimation with the public, than the hazardous assertions of Nasarre, or the intemperate retorts of La Huerta.

'The plays of Calderon, Moreto, and Roxas, are now frequently acted. Several of Lope de Vega have been successfully revived, with very slight, though not always judicious alterations. Authors of reputation are no longer ashamed of studying his style; and it is evident that those most celebrated for the severity of their judgment, have not disdained to profit by the perusal of his comedies. The most temperate critics, while they acknowledge his defects, pay a just tribute of admiration to the fertility of his invention, the happiness of his expressions, and the purity of his diction. All agree that his genius reflects honour on his country, though some may be disposed to question the beneficial influence of his works on the taste and literature of their nation. Indeed his careless and easy mode of writing made as many poets as poems. He so familiarized his countrymen with the mechanism of verse, he supplied them with such a store of commonplace images and epithets, he coined such a variety of convenient expressions, that the very facility of versification seems to have prevented the effusions of genius, and the redundancy of poetical phrases to have superseded all originality of language.' p. 228—30.

'It is a common remark in Italy, that in the same proportion as the effusions of *Improvisatori* have acquired correctness and harmony, the excellence of written poems has declined; and that the writing of these voluminous Spaniards, which partook so much of the nature of extemporaneous productions, should resemble them also in enervating the language, seems a very probable conjecture. Perhaps it was in the efforts which genius made to deviate from so beaten a track, that it wandered into obscurity; and the easy but feeble volubility of Lope's school, might induce Gongora and his disciples to hope that inspiration might be obtained by contortion.

'But the effect of Lope's labours must not be considered by a reference to language alone. For the general interest of dramatic productions, for the variety and spirit of the dialogue, as well as for some particular plays, all modern theatres are indebted to him. Perfection in any art is only to be attained by successive improvement; and though the last polish often effaces the marks of the preceding workman, his skill was not less necessary to the accomplishment of the work, than the hand of his more celebrated successor. This consideration will, I hope, excuse the length of this treatise. Had Lope never written, the master-pieces of Corneille and Moliere might never have been produced; and were not those celebrated compositions known, he might still be regarded as one of the best dramatic authors in Europe.

'It seems but an act of justice to pay some honour to the memory of men whose labours have promoted literature, and enabled others

to eclipse their reputation. Such was Lope de Vega; once the pride and glory of Spaniards, who, in their literary, as in their political achievements, have, by a singular fatality, discovered regions, and opened mines, to benefit their neighbours and their rivals, and to enrich every nation of Europe, but their own.' p. 231—32.

These observations conclude the account of the life and writings of this illustrious dramatist. An appendix is subjoined, containing a list of more than five hundred of his plays still extant and printed; some remarks upon the laws of Spanish versification; and a long extract from a memorial of Jovellanos on public spectacles and amusements.

Upon the whole, we think this little publication extremely creditable to the taste, talents, and judgment of the noble author. It is of good example, and we trust of good omen, that persons of his rank and political importance should dedicate a part of their leisure to the cultivation of studies, which will never attain to the dignity which, for the happiness of mankind, they ought to possess, till they be ennobled by something more than the patronage of the higher orders of society. What pleases us most in the work is the total absence of pedantry or affectation, and the vein of constant good sense, good humour and impartiality, which runs through every page of the performance. There is no attempt to exaggerate the importance of the subject, and no pretension to extraordinary lights or valuable discoveries. The author communicates, in the most unassuming manner, the information which his peculiar opportunities and consequent studies have enabled him to acquire; and is so far from valuing himself upon these accidental advantages, that he delivers many just, and even profound observations, in such a way as to show that he was much more anxious that the reader should assent to their truth, than that he should admire the merit of the discovery.

We cannot take our leave of the volume, without saying a word upon the peculiar merit of the poetical translations by which it is occasionally illustrated. These are not executed in that ambitious and brilliant manner by which some poets have endeavoured to efface the merit of their originals, but are written with that closeness, brevity, and neatness, which seems to us to constitute the peculiar excellence of translation, and of which we have hitherto had so few examples in our language. We have no longer room for any considerable specimen of this talent. We give the following, chiefly because it is short, and because the prosaic nature of the original passage seemed to throw particular difficulty in the way of a literal version.

'El capitan Virues, insigne ingenio,
Puso en tres actos la comedia, que antes

Andaba en quatro como pies de nino,
Que eran entonces ninas las comedias.—
Y yo las escribi de onçe y doçe anos
De a quatro actos, y de a quatro pliegos,
Porque cada acto un pliego contenia.'

'Plays of three acts we owe tó Virues' pen,
Which ne'er had crawl'd but on all fours till then;
An action suited to that helpless age,
The infancy of wit, the childhood of the stage.
Such did I write ere twelve years yet had run,
Plays on four sheets, an act on every one.' p. 8, 9.

We add the following few lines from Boileau, an author whom it is no light task to rival in precision and conciseness.

'Un rimeur sans péril au-delà des Pyrénées
Sur la scène en un jour renferme des années.
Là souvent le héros d'un spectacle grossier,
Enfant au prémier acte, est barbon au dernier.'
Art Poëtique.

'The Spanish Bard who no nice censure fears,
In one short day includes a lapse of years.
In those rude acts the hero lives so fast,
Child in the first, he's greybeard in the last.' p. 185.

Several entire scenes are translated with the same force and fidelity from the Estrella de Sevilla, and other performances. In these dramatic versions, as well as in the other, the author has voluntarily subjected himself to the unnecessary constraint of rhyme, which, though it may perhaps afford a truer picture of the original, we think might as well have been dispensed with on such an occasion.

We observe, with pleasure, that Lord Holland gives some indications of an intention to follow out the inquiries in which he has now been engaged, by preparing for the public some account of Calderon, and Guillen de Castro, the great rivals of Lope in the estimation of the Spaniards, and, after him, the brightest ornaments of the Castilian stage. We earnestly hope that he will not be induced to abandon those intentions. By a series of such biographical sketches, interspersed with enlightened criticism, and illustrated by occasional comparison with performances more familiar to an English reader, foreign literature may be most effectually naturalized, and most extensively disseminated among the reading classes of the community; the taste and intelligence of the nation may be gradually improved; our notions of excellence may be enlarged and corrected; and the objects of liberal emulation and the sources of innocent enjoyment may be multiplied among us to a considerable extent. Biographical treatises,

if ably executed, are better calculated for these purposes than any other sort of publication; because they are less laborious, more entertaining, and more miscellaneous than any thing else, and necessarily let us into the peculiar character of the age and the nation, as well as the merits, of the author in question. When we toil through a formal dissertation, or even a selection of celebrated passages, we feel that we have a task to perform, from which it would often be agreeable to escape, and in which but a few can ever be expected to engage. We decide in that case as scholars merely; and our opinions, which are apt to be dictated by prejudice or authority, can seldom go out, with their evidence, to the public. Biography is amusing and easy. The knowledge which it communicates assimilates readily with our general literature; and the judgments which it suggests being formed without effort, and in the course of a pleasant occupation, are likely to be more candid and natural than those which are extorted by a more laborious study.

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